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ZOONOMIA;

OR,

THE LAWS OF ORGANIC LIFE.

PART II.

CONTAINING

A CATALOGUE OF DISEASES,

DISTRIBUTED INTO

NATURAL CLASSES,

ACCORDING TO THEIR PROXIMATE CAUSES,

WITH THEIR SUBSEQUENT

ORDERS, GENERA, AND SPECIES,

AND WITH THEIR

METHODS OF CURE.

Hæc, ut potero, explicabo; nec tamen, quasi Pythius Apollo, certa ut sint et fixa, quæ dixero; sed ut Homunculus unus e multis probabiliora conjecturâ sequens.

CIC. TUSC. DISP. I. 1. 9.

ZOONOMIA;

OR,

THE LAWS

OF

ORGANIC LIFE.

IN FOUR VOLUMES.

By ERASMUS DARWIN, M.D. F.R.S.

AUTHOR OF THE BOTANIC GARDEN.

Principiò cœlum, ac terras, campoſque liquentes,
Lucentemque globum lunæ, titaniaque aſtra,
Spiritus intùs alit, totamque infuſa per artus
Mens agitat molem, et magno ſe corpore miſcet.
VIRG. Æn. vi.

Earth, on whoſe lap a thouſand nations tread,
And Ocean, brooding his prolific bed,
Night's changeful orb, blue pole, and ſilvery zo[illegible]
Where other worlds encircle other ſ[illegible]
One mind inhabits, one diffuſ[illegible]
Wields the large limb[illegible] mingles with the whole.

VOL. III.

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PREFACE.

ALL diſeaſes originate in the exuberance, deficiency, or retrograde action, of the faculties of the ſenſorium, as their proximate cauſe; and conſiſt in the diſordered motions of the fibres of the body, as the proximate effect of the exertions of thoſe diſordered faculties.

The ſenſorium poſſeſſes four diſtinct powers or faculties, which are occaſionally exerted, and produce all the motions of the fibrous parts of the body; theſe are the faculties of producing fibrous motions in conſequence of irritation, which is excited by external bodies; in conſequence of ſenſa-

tion which is excited by pleaſure or pain; in conſequence of volition which is excited by deſire or averſion; and in conſequence of aſſociation, which is excited by other fibrous motions. We are hence ſupplied with four natural claſſes of diſeaſes derived from their proximate cauſes; which we ſhall term thoſe of irritation, thoſe of ſenſation, thoſe of volition, and thoſe of aſſociation.

In the ſubſequent claſſification of diſeaſes I have not adhered to the methods of any of thoſe who have preceded me; the principal of whom are the great names of Sauvages and Cullen; but have nevertheleſs availed myſelf, as much as I could, of their definitions and diſtinctions.

The eſſential characteriſtic of a diſeaſe conſiſts in its proximate cauſe, as is well obſerved by doctor Cullen, in his Noſologia Methodica, T. ii. Prolegom. p. xxix. Similitudo quidem morborum in ſimilitudine cauſæ eorum proximæ, qualiſcurque

cunque ſit, revera conſiſtit. I have taken the proximate cauſe for the claſſic character. The characters of the orders are taken from the exceſs, or deficiency, or retrograde action, or other properties of the proximate cauſe. The genus is generally derived from the proximate effect. And the ſpecies generally from the locality of the diſeaſe in the ſyſtem.

Many ſpecies in this ſyſtem are termed genera in the ſyſtems of other writers; and the ſpecies of thoſe writers are, in conſequence, here termed varieties. Thus, in Dr. Cullen's Noſologia, the variola or ſmall-pox is termed a genus, and the diſtinct and confluent kinds are termed ſpecies. But as the infection from the diſtinct kind frequently produces the confluent kind, and that of the confluent kind frequently produces the diſtinct; it would ſeem more analogous to botanical arrangement, which theſe noſologiſts profeſs to imitate, to call the diſtinct and confluent ſmall-pox varieties

than species. Because the species of plants in botanical systems propagate others similar to themselves; which does not uniformly occur in such vegetable productions as are termed varieties.

In some other genera of nosologists the species have no analogy to each other, either in respect to their proximate cause, or to their proximate effect, though they may be somewhat similar in less essential properties; thus the thin and saline discharge from the nostrils on going into the cold air of a frosty morning, which is owing to the deficient action of the absorbent vessels of the nostrils, is one species; and the viscid mucus discharged from the secerning vessels of the same membrane, when inflamed, is another species of the same genus, Catarrhus. Which bear no analogy either in respect to their immediate cause, or to their immediate effect.

The uses of the method here offered to the

public,

public, of claſſing diſeaſes according to their proximate cauſes, are, firſt, more diſtinctly to underſtand their nature by comparing their eſſential properties. Secondly, to facilitate the knowledge of the methods of cure; ſince in natural claſſification of diſeaſes the ſpecies of each genus, and indeed the genera of each order, a few perhaps excepted, require the ſame general medical treatment. And laſtly, to diſcover the nature and the name of any diſeaſe previouſly unknown to the phyſician; which I am perſuaded will be more readily and more certainly done by this natural ſyſtem, than by the artificial claſſifications already publiſhed.

The common names of diſeaſes are not well adapted to any kind of claſſification, and leaſt of all to this, from their proximate cauſes. Some of their names in common language are taken from the remote cauſe, as worms, ſtone of the bladder; others from the remote effect, as diarrhœa, ſalivation, hydrocephalus; others from ſome accidental ſymptom of the diſeaſe, as tooth-

ach,

ach, head-ach, heart-burn; in which the pain is only a concomitant circumſtance of the exceſs or deficiency of fibrous actions, and not the cauſe of them. Others again are taken from the deformity occaſioned in conſequence of the unnatural fibrous motions, which conſtitute diſeaſes, as tumours, eruptions, extenuations; all theſe therefore improperly give names to diſeaſes; and ſome difficulty is thus occaſioned to the reader in endeavouring to diſcover to what claſs ſuch diſorders belong.

Another difficulty attending the names of diſeaſes is, that one name frequently includes more than one diſeaſe, either exiſting at the ſame time or in ſucceſſion. Thus the pain of the bowels from worms is cauſed by the increaſed action of the membrane from the ſtimulus of thoſe animals; but the convulſions, which ſometimes ſucceed theſe pains in children, are cauſed by the conſequent volition, and belong to another claſs.

To

To discover under what class any disease should be arranged, we must first investigate the proximate cause; thus the pain of the tooth-ach is not the cause of any diseased motions, but the effect; the tooth-ach therefore does not belong to the class of Sensation. As the pain is caused by increased or decreased action of the membranes of the tooth, and these actions are owing to the increase or decrease of irritation, the disease is to be placed in the class of Irritation.

To discover the order it must be inquired, whether the pain be owing to increased or defective motion of the pained membrane; which is known by the concomitant heat or coldness of the part. In tooth-ach without inflammation there is generally a coldness attends the cheek in its vicinity; as may be perceived by the hand of the patient himself, compared with the opposite cheek. Hence odontalgia is found to belong to the order of decreased irritation. The genus and species

must

muſt be found by inſpecting the ſynopſis of the ſecond order of the claſs of Irritation. See Claſs I. 2. 4. 12.

This may be further elucidated by conſidering the natural operation of parturition; the pain is occaſioned by the increaſed action or diſtention of the veſſels of the uterus, in conſequence of the ſtimulus of the fetus; and is therefore cauſed by increaſed irritation; but the actions of the abdominal muſcles in its excluſion are cauſed by the pain, and belong to the claſs of increaſed ſenſation. See Claſs II. 1. 1. 12. Hence the difficulty of determining, under what claſs of diſeaſes parturition ſhould be arranged, conſiſts in there being two kinds of diſeaſed actions comprehended under one word; which have each their different proximate cauſe.

In Sect. XXXIX. 8. 4. and in Claſs II. 1. 1. 1. we have endeavoured to give names to four links

of

of animal caufation, which conveniently apply to the claffification of difeafes; thus in common nictitation, or winking with the eyes without our attention to it, the increafed irritation is the proximate caufe; the ftimulus of the air on the dry cornea is the remote caufe; the clofing of the eyelid is the proximate effect; and the diffufion of tears over the eyeball is the remote effect. In fome cafes two more links of caufation may be introduced; one of them may be termed the pre-remote caufe; as the warmth or motion of the atmofphere, which caufes greater exhalation from the cornea. And the other the poft-remote effect; as the renewed pellucidity of the cornea; and thus fix links of caufation may be expreffed in words.

But if amid thefe remote links of animal caufation any of the four powers or faculties of the fenforium be introduced, the reafoning is not juft according to the method here propofed; for thefe powers of the fenforium are always the proximate

caufes

causes of the contractions of animal fibres; and therefore in true language cannot be termed their remote causes. From this criterion it may always be determined, whether more diseases than one are comprehended under one name; a circumstance which has much impeded the investigation of the causes, and cures of diseases.

Thus the term fever, is generally given to a collection of morbid symptoms; which are indeed so many distinct diseases, that sometimes appear together, and sometimes separately; hence it has no determinate meaning, except it signifies simply a quick pulse, which continues for some hours; in which sense it is here used.

In naming diseases I have endeavoured to avoid the affectation of making new compound Greek words, where others equally expressive could be procured: as a short periphrasis is easier to be understood, and less burdensome to the memory.

In

In the Methodus Medendi, which is marked by M. M. at the end of many of the ſpecies of diſeaſes, the words incitantia, ſorbentia, torpentia, &c. refer to the articles of the Materia Medica, explaining the operations of medicines.

The remote cauſes of many diſeaſes, their periods, and many circumſtances concerning them, are treated of in the preceding volumes; the deſcriptions of many of them, which I have omitted for the ſake of brevity, may be ſeen in the Noſologia Methodica of Sauvages, and in the Synopſis Noſologiæ of Dr. Cullen, and in the authors to which they refer.

In this arduous undertaking the author ſolicits the candour of the critical reader; as he cannot but foreſee, that many errors will be diſcovered, many additional ſpecies will require to be inſerted; and others to be tranſplanted, or eraſed. If he could expend another forty years in the practice of

medicine, he makes no doubt, but that he could bring this work nearer perfection, and thence render it more worthy the attention of philosophers.——As it is, he is induced to hope, that some advantages will be derived from it to the science of medicine, and consequent utility to the public, and leaves the completion of his plan to the industry of future generations.

DERBY, *Jan.* 1, 1796.

ZOONOMIA.

PART II.

CLASSES OF DISEASES.

I. DISEASES OF IRRITATION.
II. DISEASES OF SENSATION.
III. DISEASES OF VOLITION.
IV. DISEASES OF ASSOCIATION.

The Orders and Genera of the First Class of Diseases.

CLASS I.

DISEASES OF IRRITATION.

ORDO I.

Increased Irritation.

GENERA.

1. With increased actions of the sanguiferous system.
2. With increased actions of the secerning system.
3. With increased actions of the absorbent system.
4. With increased actions of other cavities and membranes.
5. With increased actions of the organs of sense.

ORDO II.

Decreased Irritation.

GENERA.

1. With decreased actions of the sanguiferous system.
2. With decreased actions of the secerning system.
3. With decreased actions of the absorbent system.
4. With decreased actions of other cavities and membranes.
5. With decreased actions of the organs of sense.

ORDO

ORDO III.

Retrograde Irritative Motions.

GENERA.

1. Of the alimentary canal.
2. Of the absorbent system.
3. Of the sanguiferous system.

The Orders, Genera, and Species, of the First Class of Diseases.

CLASS I.

DISEASES OF IRRITATION.

ORDO I.

Increased Irritation.

GENUS I.

With increased Actions of the Sanguiferous System.

SPECIES.

1. *Febris irritativa.*	Irritative fever.
2. *Ebrietas.*	Drunkenness.
3. *Hæmorrhagia arteriosa.*	Arterial hæmorrhage.
4. *Hæmoptoe arteriosa.*	Spitting of arterial blood.
5. *Hæmorrhagia narium.*	Bleeding from the nose.

GENUS II.

With increased Actions of the Secerning System.

SPECIES.

1. *Calor febrilis.*	Febrile heat.
2. *Rubor febrilis.*	Febrile redness.
3. *Sudor calidus.*	Warm sweat.
Sudor febrilis.	Sweat in fevers.
—— *a labore.*	—— from exercise.

Sudor

Sudor ab igne.	Sweat from fire.
—— *a medicamentis.*	——- from medicines.
4. *Urina uberior colorata.*	Copious coloured urine.
5. *Diarrhœa calida.*	Warm diarrhœa.
———- *febrilis.*	Diarrhœ from fever.
———- *crapulosa.*	———- from indigestion.
———- *infantum.*	———- of infants.
6. *Salivatio calida.*	Warm salivation.
7. *Catarrhus calidus.*	——- catarrh.
8. *Expectoratio calida.*	——- expectoration.
9. *Exsudatio pone aures.*	Discharge behind the ears.
10. *Gonorrhœa calida.*	Warm gonorrhœa.
11. *Fluor albus calidus.*	——- fluor albus.
12. *Hæmorrhois alba.*	White piles.
13. *Serum e vesicatorio.*	Discharge from a blister.
14. *Perspiratio fœtida.*	Fetid perspiration.
15. *Crines novi.*	New hairs.

GENUS III.

With increased Actions of the Absorbent System.

SPECIES.

1. *Lingua arida.*	Dry tongue.
2. *Fauces aridæ.*	Dry throat.
3. *Nares aridi.*	Dry nostrils.
4. *Expectoratio solida.*	Solid expectoration.
5. *Constipatio alvi.*	Costiveness.
6. *Cutis arida.*	Dry skin.

7. *Urina parcior colorata.*	Diminiſhed coloured urine.
8. *Calculus felleus et icterus.*	Gall-ſtone and jaundice.
9. ——— *renis.*	Stone of the kidney.
10. ——— *veſicæ.*	Stone of the bladder.
11. ——— *arthriticus.*	Gout-ſtone.
12. *Rheumatiſmus chronicus.*	Chronic rheumatiſm.
13. *Cicatrix vulnerum.*	Healing of ulcers.
14. *Corneæ obfuſcatio.*	Scar on the cornea.

GENUS IV.

With increaſed Actions of other Cavities and Membranes.

SPECIES.

1. *Nictitatio irritativa.*	Irritative nictitation.
2. *Deglutitio irritativa.*	Irritative deglutition.
3. *Reſpiratio et tuſſis.*	Reſpiration and cough.
4. *Excluſio bilis.*	Excluſion of the bile.
5. *Dentitio.*	Toothing.
6. *Priapiſmus.*	Priapiſm.
7. *Diſtenſio mammularum.*	Diſtention of the nipples.
8. *Deſcenſus uteri.*	Deſcent of the uterus.
9. *Prolapſus ani.*	Deſcent of the rectum.
10. *Lumbricus.*	Round worm.

11. *Tænia*

11. *Tænia.*	Tape-worm.
12. *Afcarides.*	Thread-worms.
13. *Dracunculus.*	Guinea-worm.
14. *Morpiones.*	Crab-lice.
15. *Pediculi.*	Lice.

GENUS V.

With increafed Actions of the Organs of Senfe.

SPECIES.

1. *Vifus acrior.*	Acuter fight.
2. *Auditus acrior.*	——— hearing.
3. *Olfactus acrior.*	——— fmell.
4. *Guftus acrior.*	——— tafte.
5. *Tactus acrior.*	——— touch.
6. *Senfus caloris acrior.*	——— fenfe of heat.
7. ——- *extenfionis acrior.*	——— fenfe of extenfion.
8. *Titillatio.*	Tickling.
9. *Pruritus.*	Itching.
10. *Dolor urens.*	Smarting.
11. *Confternatio.*	Surprife.

ORDO II.

Decreafed Irritation.

GENUS I.

With decreafed Actions of the Sanguiferous Syftem.

SPECIES.

1. *Febris inirritativa.*	Inirritative fever.
2. *Parefis inirritativa.*	——— debility.

3. *Somnus interruptus.*	Interrupted ſleep.
4. *Syncope.*	Fainting.
5. *Hæmorrhagia venoſa.*	Venous hæmorrhage.
6. *Hæmorrhois cruenta.*	Bleeding piles.
7. *Hæmorrhagia renum.*	——— from the kidneys.
8. ——— ——— *hepatis.*	Bleeding from the liver.
9. *Hæmoptoe venoſa.*	Spitting of venous blood.
10. *Palpitatio cordis.*	Palpitation of the heart.
11. *Menorrhagia.*	Exuberant menſtruation.
12. *Dyſmenorrhagia.*	Deficient menſtruation.
13. *Lochia nimia.*	Too great lochia.
14. *Abortio ſpontanea.*	Spontaneous abortion.
15. *Scorbutus.*	Scurvy.
16. *Vibices.*	Extravaſations of blood.
17. *Petechiæ.*	Purple ſpots.
18. *Aneuriſma.*	Aneuriſm.
19. *Varix.*	Swelling of veins.

GENUS II.

With decreaſed Actions of the Secerning Syſtem.

SPECIES.

1. *Frigus febrile.*	Coldneſs in fevers.
——- *chronicum.*	——— permanent.
2. *Pallor fugitivus.*	Paleneſs fugitive.
——- *permanens.*	——— permanent.
3. *Pus parcius.*	Diminiſhed pus.
4. *Mucus parcior.*	Diminiſhed Mucus.

3 5. *Urina*

5. *Urina parcior pallida.*	Pale diminiſhed urine.
6. *Torpor hepaticus.*	Torpor of the liver.
7. *Torpor pancreatis.*	Torpor of the pancreas.
8. *Torpor renis.*	Torpor of the kidney.
9. *Punctæ mucoſæ vultus.*	Mucous ſpots on the face.
10. *Maculæ cutis fulvæ.*	Tawny blots on the ſkin.
11. *Canities.*	Grey hairs.
12. *Callus.*	Callus.
13. *Cataracta.*	Cataract.
14. *Innutritio oſſium.*	Innutrition of the bones.
15. *Rachitis.*	Rickets.
16. *Spinæ diſtortio.*	Diſtortion of the ſpine.
17. *Claudicatio coxaria.*	Lameneſs of the hip.
18. *Spina protuberans.*	Protuberant ſpine.
19. *Spina bifida.*	Divided ſpine.
20. *Defectus palati.*	Defect of the palate.

GENUS III.

With decreaſed Actions of the Abſorbent Syſtem.

SPECIES.

1. *Mucus faucium frigidus.*	Cold mucus from the throat.
2. *Sudor frigidus.*	—— ſweat.
3. *Catarrhus frigidus.*	—— catarrh.
4. *Expectoratio frigida.*	—— expectoration.

5. *Urina*

5. *Urina uberior pallida.*	Copious pale urine.
6. *Diarrhœa frigida.*	Cold diarrhœa.
7. *Fluor albus frigidus.*	—— fluor albus.
8. *Gonorrhœa frigida.*	—— gonorrhœa.
9. *Hepatis tumor.*	Swelling of the liver.
10. *Chlorosis.*	Green ſickneſs.
11. *Hydrocele.*	Dropſy of the vagina teſtis.
12. *Hydrocephalus internus.*	—— of the brain.
13. *Aſcites.*	—— of the belly.
14. *Hydrothorax.*	—— of the cheſt.
15. *Hydrops ovarii.*	—— of the ovary.
16. *Anaſarca pulmonum.*	—— of the lungs.
17. *Obeſitas.*	Corpulency.
18. *Splenis tumor.*	Swelling of the ſpleen.
19. *Genu tumor albus.*	White ſwelling of the knee.
20. *Bronchocele.*	Swelled throat.
21. *Scrofula.*	King's evil.
22. *Scirrhus.*	Scirrhus.
23. —— *recti.*	—— of the rectum.
24. —— *urethræ.*	—— of the urethra.
25. —— *œſophagi.*	—— of the throat.
26. *Lacteorum inirritabilitas.*	Inirritability of the lacteals.
27. *Lymphaticorum inirritabilitas.*	Inirritability of the lymphatics.

GENUS

GENUS IV.

With decreased Actions of other Cavities and Membranes.

SPECIES.

1. *Sitis calida.*	Thirst warm.
—— *frigida.*	—— cold.
2. *Esuries.*	Hunger.
3. *Nausea sicca.*	Dry nausea.
4. *Ægritudo ventriculi.*	Sickness of stomach.
5. *Cardialgia.*	Heart-burn.
6. *Arthritis ventriculi.*	Gout of the stomach.
7. *Colica flatulenta.*	Flatulent colic.
8. *Colica saturnina.*	Colic from lead.
9. *Tympanitis.*	Tympany.
10. *Hypochondriasis.*	Hypochondriacism.
11. *Cephalæa idiopathica.*	Idiopathic head-ach.
12. *Hemicrania idiopathica.*	Idiopathic hemicrania.
13. *Odontalgia.*	Tooth-ach.
Otalgia.	Ear-ach.
14. *Pleurodyne chronica.*	Chronical pain of the side.
15. *Sciatica frigida.*	Cold sciatica.
16. *Lumbago frigida.*	—— lumbago.
17. *Hysteralgia frigida.*	—— pain of the uterus.
18. *Proctalgia frigida.*	—— pain of the rectum.
19. *Vesicæ felleæ inirritabilitas et icterus.*	Inirritability of the gall-bladder and jaundice.

GENUS V.

With decreaſed Actions of the Organs of Senſe.

SPECIES.

1. *Stultitia inirritabilis.*	Folly from inirritability.
2. *Viſus imminutus.*	Impaired viſion.
3. *Muſcæ volitantes.*	Dark moving ſpecks.
4. *Strabiſmus.*	Squinting.
5. *Amauroſis.*	Palſy of the optic nerve.
6. *Auditus imminutus.*	Impaired hearing.
7. *Olfactus imminutus.*	——— ſmell.
8. *Guſtus imminutus.*	——— taſte.
9. *Tactus imminutus.*	——— touch.
10. *Stupor.*	Stupor.

ORDO III.

Retrograde Irritative Motions.

GENUS I.

Of the Alimentary Canal.

SPECIES.

1. *Ruminatio.*	Chewing the cud.
2. *Ructus.*	Eructation.
3. *Apepſia.*	Indigeſtion, water-qualm.
4. *Vomitus.*	Vomiting.
5 *Cholera.*	Cholera.
6. *Ileus.*	Iliac paſſion.
7. *Globus hyſtericus.*	Hyſteric ſtrangulation.

8. *Vomendi*

8. *Vomendi conamen inane.*	Vain efforts to vomit.
9. *Borborigmus.*	Gurgling of the bowels.
10. *Hyſteria.*	Hyſteric diſeaſe.
11. *Hydrophobia.*	Dread of water.

GENUS II.

Of the Abſorbent Syſtem.

SPECIES.

1. *Catarrhus lymphaticus.*	Lymphatic catarrh.
2. *Salivatio lymphatica.*	Lymphatic ſalivation.
3. *Nauſea humida.*	Moiſt nauſea.
4. *Diarrhœa lymphatica.*	Lymphatic flux.
5. *Diarrhœa chylifera.*	Flux of chyle.
6. *Diabetes.*	Diabetes.
7. *Sudor lymphaticus.*	Lymphatic ſweat.
8. *Sudor aſthmaticus.*	Aſthmatic ſweat.
9. *Tranſlatio puris.*	Tranſlation of matter.
10. ——— *lactis.*	——— of milk.
11. ——— *urinæ.*	——— of urine.

GENUS III.

Of the Sanguiferous Syſtem.

SPECIES.

1. *Capillarium motus retrogreſſus.*	Retrograde motion of the capillaries.
2. *Palpitatio cordis.*	Palpitation of the heart.
3. *Anhelatio ſpaſmodica.*	Spaſmodic panting.

CLASS

CLASS I.

DISEASES OF IRRITATION.

ORDO I.

Increased Irritation.

GENUS I.

With increased Actions of the Sanguiferous System.

THE irritability of the whole, or of part, of our system is perpetually changing; these vicissitudes of irritability and of inirritability are believed to depend on the accumulation or exhaustion of the sensorial power, as their proximate cause; and on the difference of the present stimulus, and of that which we had previously been accustomed to, as their remote cause. Thus a smaller degree of heat produces pain and inflammation in our hands, after they have been for a time immersed in snow; which is owing to the accumulation of sensorial power in the moving fibres of the cutaneous vessels during their previous quiescence, when they were benumbed with cold. And we feel ourselves cold in the usual temperature of the atmosphere on coming out of a warm room; which is owing to the exhaustion of sensorial power in the moving fibres of the vessels of the skin by their previous increased activity, into which they were excited by unusual heat.

Hence

Hence the cold fits of fever are the occasion of the succeeding hot ones; and the hot fits contribute to occasion in their turn the succeeding cold ones. And though the increase of stimulus, as of heat, exercise, or distention, will produce an increased action of the stimulated fibres; in the same manner as it is produced by the increased irritability which was occasioned by a previous defect of stimulus; yet as the excesses of irritation from the stimulus of external things are more easily avoided than the deficiencies of it; the diseases of this country, except those which are the consequences of drunkenness, or of immoderate exercise, more frequently begin with torpor than with orgasm; that is, with inactivity of some parts, or of the whole of the system, and consequent coldness, than with increased activity, and consequent heat.

If the hot fit be the consequence of the cold one, it may be asked if they are proportionate to each other: it is probable that they are, where no part is destroyed by the cold fit, as in mortification or death. But we have no measure to distinguish this, except the time of their duration; whereas the extent of the torpor over a greater or less part of the system, which occasions the cold fit; or of the exertion which occasions the hot one; as well as the degree of such torpor or exertion, are perhaps more material than the time of their duration. Besides this, some muscles are less liable

to

to accumulate ſenſorial power during their torpor, than others, as the locomotive muſcles compared with the capillary arteries; on all which accounts a long cold fit may often be followed by a ſhort hot one.

As the torpor, with which a fit of fever commences, is ſometimes owing to defect of ſtimulus, as in going into the cold-bath; and ſometimes to a previous exhauſtion of the ſenſorial power by the action of ſome violent ſtimulus, as after coming out of a hot room into cold air; a longer time muſt elapſe, before there can be a ſufficient accumulation of ſenſorial power to produce a hot fit in one caſe than in the other. Becauſe in the latter caſe the quantity of ſenſorial power previouſly expended muſt be ſupplied, before an accumulation can begin.

The cold paroxyſm commences, when the torpor of a part becomes ſo great, and its motions in conſequence ſo ſlow or feeble, as not to excite the ſenſorial power of aſſociation; which in health contributes to move the reſt of the ſyſtem, which is catenated with it. And the hot fit commences by the accumulation of the ſenſorial power of irritation of the part firſt affected, either ſo as to counteract its deficient ſtimulus, or its previous waſte of ſenſorial power; and it becomes general by the accumulation of the ſenſorial power of aſſociation; which is excited by the renovated actions of the part firſt affected; or becomes ſo

great

great as to overbalance the deficient excitement of it. On all theſe accounts the hot fit cannot be ſuppoſed to bear any proportion to the cold one in length of time, though the latter may be the conſequence of the former. See Suppl. I. 16. 8.

SPECIES.

1. *Febris irritativa.* Irritative fever. This is the ſynocha of ſome writers, it is attended with ſtrong pulſe without inflammation; and in this circumſtance differs from the febris inirritativa of Claſs I. 2. 1. 1. which is attended with weak pulſe without inflammation. The increaſed frequency of the pulſation of the heart and arteries conſtitutes fever; during the cold fit theſe pulſations are always weak, as the energy of action is then decreaſed throughout the whole ſyſtem; and therefore the general arterial ſtrength cannot be determined by the touch, till the cold part of the paroxyſm ceaſes. This determination is ſometimes attended with difficulty; as ſtrong and weak are only comparative degrees of the greater or leſs reſiſtance of the pulſation of the artery to the compreſſion of the finger. But the greater or leſs frequency of the pulſations affords a collateral evidence in thoſe caſes, where the degree of ſtrength is not very diſtinguiſhable, which may aſſiſt our judgment concerning it. Since a moderately ſtrong pulſe, when the patient is in a re-

cumbent posture, and not hurried in mind, seldom exceeds 120 strokes in a minute; whereas a weak one often exceeds 130 in a recumbent posture, and 150 in an erect one, in those fevers, which are termed nervous or putrid. See Sect. XII. 1. 4.

The increased frequency of the pulsation of the heart and arteries, as it is occasioned either by excess or defect of stimulus, or of sensorial power, exists both in the cold and hot fits of fever; but when the cold fit ceases, and the pulse becomes strong and full as well as quick, in consequence of the increased irritability of the heart and arteries, it constitutes the irritative fever, or synocha. It is attended with considerable heat during the paroxysm, and generally terminates in a quarter of a lunation, without any disturbance of the faculties of the mind. See Class IV. 1. 1. 8.

M. M. Venesection. Emetics. Cathartics. Cool the patient in the hot fit, and warm him in the cold one. Rest. Torpentia.

2. *Ebrietas.* Drunkenness. By the stimulus of wine or opium the whole arterial system, as well as every other part of the moving system, is excited into increased action. All these secretions, and with them the production of sensorial power itself in the brain, seem to be for a time increased, with an additional quantity of heat, and of pleasurable sensation. See Sect. XXI. on this subject. This explains, why at the com-

mencement of the warm paroxyſm of ſome fevers the patient is in greater ſpirits, or vivacity; becauſe, as in drunkenneſs, the irritative motions are all increaſed, and a greater production of ſenſation is the conſequence, which, when in a certain degree, is pleaſurable, as in the diurnal fever of weak people. Sect. XXXVI. 3. 1.

3. *Hæmorrhagia arterioſa.* Arterial hæmorrhage. Bleeding with a quick, ſtrong, and full pulſe. The hæmorrhages from the lungs, and from the noſe, are the moſt frequent of theſe; but it ſometimes happens, that a ſmall artery but half divided, or the puncture of a leech, will continue to bleed pertinaciouſly.

M. M. Veneſection. Cathartic with calomel. Divide the wounded artery. Bind ſponge on the puncture. If coffee or charcoal, internally? If air, with leſs oxygen?

4. *Hæmoptoe arterioſa.* Spitting of arterial blood. Blood ſpit up from the lungs is florid, becauſe it has juſt been expoſed to the influence of the air in its paſſage through the extremities of the pulmonary artery; it is frothy, from the admixture of air with it in the bronchia. The patients frequently vomit at the ſame time from the diſagreeable titillation of blood about the fauces; and are thence liable to believe, that the blood is ejected from the ſtomach.

Sometimes an hæmoptoe for ſeveral ſucceſſive days returns in gouty perſons without danger, and ſeems to ſupply the place of the gouty paroxyſms. Is not the liver always diſeaſed previous to the hæmoptoe, as in ſeveral other hæmorrhages? See Claſs I. 2. 1. 9.

M. M. Veneſection, a purge, a bliſter, diluents, torpentia; and afterwards ſorbentia, as the bark, the acid of vitriol, and opium. An emetic is ſaid to ſtop a pulmonary hæmorrhage, which it may effect, as ſickneſs decreaſes the circulation, as is very evident in the great ſickneſs ſometimes produced by too large a doſe of digitalis purpurea.

Dr. Ruſh ſays, a table-ſpoonful or two of common ſalt is ſucceſsful in hæmoptoe; this may be owing to its ſtimulating the abſorbent ſyſtems, both the lymphatic, and the venous. Should the patient reſpire air with leſs oxygen? or be made ſick by whirling round in a chair ſuſpended by a rope? One immerſion in cold water, or a ſudden ſprinkling all over with cold water, would probably ſtop a pulmonary hæmorrhage. See Sect. XXVII. 1.

5. *Hæmorrhagia narium. Epiſtaxis.* Bleeding at the noſe in elderly ſubjects moſt frequently attends thoſe, whoſe livers are enlarged or inflamed by the too frequent uſe of fermented liquors.

In boys it occurs perhaps ſimply from redundancy of blood; and in young girls ſometimes precedes the approach of the catamenia; and then it

it ſhews a diſpoſition contrary to chloroſis; which ariſes from a deficiency of red blood.

M. M. It is ſtopped by plunging the head into cold water, with powdered ſalt haſtily diſſolved in it; or ſometimes by lint ſtrewed over with wheat flower put up the noſtrils; or by a ſolution of ſteel in brandy applied to the veſſel by means of lint. The cure in other reſpects as in hæmoptoe; when the bleeding recurs at certain periods, after veneſection, and evacuation by calomel, and a bliſter, the bark and ſteel muſt be given, as in intermittent fevers. See Section XXVII. 1.

The tincture of digitalis given in proper quantities, as 30 drops from a two-ounce phial every ſix hours for two or three or four doſes, is probably an efficacious medicine. See Dr. Ferriar's Treatiſe on Digitalis. He ſtopped active hæmorrhages by the exhibition of digitalis.

ORDO I.

Increased Irritation.

GENUS II.

With increased Actions of the Secerning System.

These are always attended with increase of partial or of general heat; for the secreted fluids are not simply separated from the blood, but are new combinations; as they did not previously exist as such in the blood vessels. But all new combinations give out heat chemically; hence the origin of animal heat, which is always increased in proportion to the secretion of the part affected, or to the general quantity of the secretions. Nevertheless there is reason to believe, that as we have a sense purposely to distinguish the presence of greater or less quantities of heat, as mentioned in Sect. XIV. 6. so we may have certain minute glands for the secretion of this fluid, as the brain is believed to secrete the sensorial power, which would more easily account for the instantaneous production of the blush of shame, and of anger. This subject deserves further investigation.

SPECIES.

1. *Calor febrilis.* The heat in fevers arises from the increase of some secretion, either of the natural

natural fluids, as in irritative fevers; or of new fluids, as in infectious fevers; or of new vessels, as in inflammatory fevers. The pain of heat is a consequence of the increased extension or contraction of the fibres exposed to so great a stimulus. See Class I. 1. 5. 6.

2. *Rubor febrilis.* Febrile redness. When the cold fit of fever terminates, and the pulsations of the heart and arteries become strong as well as quick from the increase of their irritability after their late quiescence, the blood is impelled forwards into the fine extremities of the arteries, and the anastamosing capillaries, quicker than the extremities of the veins can absorb and return it to the heart. Hence the pulse at the wrist becomes full, as well as quick and strong, and the skin glows with arterial blood, and the veins become empty and less visible.

In elderly people the force of the heart and arteries becomes less, while the absorbent power of the veins remains the same; whence the capillary vessels part with the blood, as soon as it is received, and the skin in consequence becomes paler; it is also probable, that in more advanced life some of the finer branches of the arteries coalesce, and become impervious, and thus add to the opacity of the skin.

3. *Sudor calidus.* Warm sweat may be divided

into four varieties, according to its remote causes. *First*, the perspirable matter is secreted in as great quantity during the hot fit of fever, as towards the end of it, when the sweat is seen upon the skin. But during the hot fit the cutaneous absorbents act also with increased energy, and the exhalation is likewise increased by the greater heat of the skin; and hence it does not appear in drops on the surface, but is in part re-absorbed, and in part dissipated in the atmosphere. But as the mouths of the cutaneous absorbents are exposed to the cool air or bedclothes; whilst those of the capillary glands, which secrete the perspirable matter, are exposed to the warmth of the circulating blood; the former, as soon as the fever-fit begins to decline, lose their increased action first; and hence the absorption of the sweat is diminished, whilst the increased secretion of it continues for some hours afterwards, which occasions it to stand in drops upon the skin.

As the skin becomes cooler, the evaporation of the perspirable matter becomes less, as well as the absorption of it. And hence the dissipation of aqueous fluid from the body, and the consequent thirst, are perhaps greater during the hot fit, than during the subsequent sweat. For the sweats do not occur, according to Dr. Alexander's experiments, till the skin is cooled from 112 to 108 degrees of heat; that is, till the paroxysm begins to decline. From this it appears, that the

ſweats are not critical to the hot fit, any more than the hot fit can be called critical to the cold one; but ſimply, that they are the natural conſequence of the decline of the hot fit, commencing with the decreaſed action of the abſorbent ſyſtem, and the decreaſed evaporation from the ſkin. And from hence it may be concluded, that a fever-fit is not in general an effort of nature to reſtore health, as Sydenham conſidered it, but a neceſſary conſequence of the previous torpor; and that the cauſes of fevers would be leſs detrimental, if the fever itſelf could be prevented from exiſting; as appears in the cool treatment of the ſmall-pox.

It muſt be noted that the profuſe ſweats on the ſkin are more frequent at the decline of fever-fits than the copious urine, or looſe ſtools, which are mentioned below; as the cutaneous abſorbents, being expoſed to the cool air, loſe their increaſed action ſooner than the urinary or inteſtinal abſorbents; which open into the warm cavities of the bladder and inteſtines; but which are nevertheleſs often affected by their ſympathy with the cutaneous abſorbents. Hence few fevers terminate without a moiſture of the ſkin; whence aroſe the fatal practice of forcing ſweats by the external warmth of air or bed-clothes in fevers; for external warmth increaſes the action of the cutaneous capillaries more than that of the other ſecerning veſſels; becauſe the latter are habituated to 98 degrees of heat, the internal warmth of the body;

 whereas

whereas the cutaneous capillaries being nearer the ſurface are habitually kept cooler by the contact of the external air. Sweats thus produced by heat in confined rooms are ſtill more detrimental; as the air becomes then not only deprived of a part of its oxygene by frequent reſpiration, but is loaded with animal effluvia as well as with moiſture, till it can receive no more; and in conſequence, while the cutaneous ſecretion ſtands upon the ſkin in drops for want of exhalation, the lungs are expoſed to an inſalubrious atmoſphere.

I do not deny, that ſweating may be ſo managed as to be ſerviceable in preventing the return of the cold paroxyſm of fevers; like the warm bath, or any other permanent ſtimulus, as wine, or opium, or the bark. For this purpoſe it ſhould be continued till paſt the time of the expected cold fit, ſupported by moderate doſes of wine-whey, with ſpirit of hartſhorn, and moderate degrees of warmth. Its ſalutary effect, when thus managed, was probably one cauſe of its having been ſo much attended to; and the fetid ſmell, which when profuſe is liable to accompany it, gave occaſion to the belief, that the ſuppoſed material cauſe of the diſeaſe was thus eliminated from the circulation.

When too great external heat is applied, the ſyſtem is weakened by exceſs of action, and the torpor which cauſes the cold paroxyſm recurs ſooner and more violently. For though ſome ſtimuli,

ftimuli, as of opium and alcohol, at the fame time that they exhauft the fenforial power by promoting increafe of fibrous action, may alfo increafe the production or fecretion of it in the brain, yet experience teaches us, that the exhauftion far outbalances the increafed production, as is evinced by the general debility, which fucceeds intoxication.

In refpect to the fetor attending copious continued fweats, it is owing to the animalized part of this fluid being kept in that degree of warmth, which moft favours putrefaction, and not fuffered to exhale into the atmofphere. Broth, or other animal mucus, kept in fimilar circumftances, would in the fame time acquire a putrid fmell; yet has this error frequently produced miliary eruptions, and increafed every kind of inflammatory or fenfitive fever.

The eafe, which the patient experiences during fweating, if it be not produced by much external heat, is fimilar to that of the warm bath; which by its ftimulus applied to the cutaneous veffels, which are generally cooler than the internal parts of the fyftem, excites them into greater action; and pleafurable fenfation is the confequence of thefe increafed actions of the veffels of the fkin. From confidering all thefe circumftances, it appears that it is not the evacuation by fweats, but the continued ftimulus, which caufes and fupports thofe fweats, which is ferviceable in preventing

preventing the returns of fever-fits. And that ſweats too long continued, or induced by too great ſtimulus of warmth, clothes, or medicines, greatly injure the patient by increaſing inflammation, or by exhauſting the ſenſorial power. See Claſs I. 1. 2. 14.

Secondly, The ſweats produced by exerciſe or labour are of the warm kind; as they originate from the increaſed action of the capillaries of the ſkin, owing to their being more powerfully ſtimulated by the greater velocity of the blood, and by a greater quantity of it paſſing through them in a given time. For the blood during violent exerciſe is carried forwards by the action of the muſcles faſter in the arteries, than it can be taken up by the veins; as appears by the redneſs of the ſkin. And from the conſequent ſweats, it is evinced, that the ſecretory veſſels of the ſkin during exerciſe pour out the perſpirable matter faſter, than the mouths of the abſorbent veſſels can drink it up. Which mouths are not expoſed to the increaſed muſcular action, or to the ſtimulus of the increaſed velocity and quantity of the blood, but to the cool air.

Thirdly, the increaſed ſecretion of perſpirable matter occaſioned by the ſtimulus of external heat belongs likewiſe to this place; as it is cauſed by the increaſed motions of the capillary veſſels; which thus ſeparate from the blood more perſpirable matter, than the mouths of their correſpondent abſorbent veſſels can take up; though theſe

these also are stimulated by external heat into more energetic action. If the air be stationary, as in a small room, or bed with closed curtains, the sweat stands in drops on the skin for want of a quicker exhalation proportioned to the quicker secretion.

A *fourth* variety of warm perspiration is that occasioned by stimulating drugs, of which opium and alcohol are the most powerful; and next to these the spices, volatile alkali, and neutral salts, especially sea salt; that much of the aqueous part of the blood is dissipated by the use of these drugs, is evinced by the great thirst, which occurs a few hours after the use of them. See Art. III. 2. 1.

We may from hence understand, that the increase of this secretion of perspirable matter by artificial means, must be followed by debility and emaciation. When this is done by taking much salt, or salted meat, the sea-scurvy is produced; which consists in the inirritability of the bibulous terminations of the veins arising from the capillaries; see Class I. 2. 1. 14. The scrofula, or inirritability of the lymphatic glands, seems also to be occasionally induced by an excess in eating salt added to food of bad nourishment. See Class I. 2. 3. 21. If an excess of perspiration is induced by warm or stimulant clothing, as by wearing flannel in contact with the skin in the summer months, a perpetual febricula is excited, both by the preventing the access of cool air to the skin, and by perpetually

goading

goading it by the numerous and hard points of the ends of the wool; which when applied to the tender ſkins of young children, frequently produce the red gum, as it is called; and in grown people, either an eryſipelas, or a miliary eruption, attended with fever. See Claſs II. 1. 3. 12.

Shirts made of cotton or calico ſtimulate the ſkin too much by the points of the fibres, though leſs than flannel; whence cotton handkerchiefs make the noſe ſore by frequent uſe. The fibres of cotton are, I ſuppoſe, ten times ſhorter than thoſe of flax, and the number of points in conſequence twenty times the number; and though the manufacturers ſinge their calicoes on a red-hot iron cylinder, yet I have more than once ſeen an eryſipelas induced or increaſed by the ſtimulus of calico, as well as of flannel; and have during the laſt ſummer prevailed on two, who were confined to their beds by fevers, and three, who were in a ſtate of great debility, to diſencumber themſelves of the flannel ſhirts, which they had worn for ſome time; all of them became immediately and conſiderably relieved; and found no inconvenience afterwards by diſcontinuing an unneceſſary ſtimulus, which had nothing to recommend it to thoſe patients but the frivolous faſhion of the day.

The inconvenience, which weak conſtitutions experience from wearing flannel ſhirts, ariſes from this circumſtance; that the extremities of their limbs are more liable to become cold, than the ſur-

face

face of the cheſt and abdomen, and that hence they ſhould in preference wear warmer ſtockings, ſhoes, and ſocks, or gloves. By ſtimulating the warmer parts of the ſkin into too ſtrong and uſeleſs exertion, as by the hard points of a flannel ſhirt at all ſeaſons, and by its confining the warmth of the ſkin too much in the ſummer months, a part of the ſenſorial power becomes unneceſſarily expended; and in weak conſtitutions, where there is none to ſpare, ſome other parts of the ſyſtem muſt act with leſs energy; and thus I believe the extremities of feeble people become colder by the uſe of a flannel ſhirt; in ſtronger people, and perhaps in warmer climates, this increaſed coldneſs of the extremities may not be perceptible; as ſtronger perſons can better bear ſome increaſed exertion, and the conſequent unneceſſary loſs of ſome ſenſorial power; and in warmer climates the extremities may not be ſo liable to become cold.

Analogous to this I remember to have ſeen an inoculated child about ſix years old, whoſe boſom and face, at the beginning of the eruptive fever, were of a fiery red colour, and exceedingly hot to the touch; and whoſe feet were at the ſame time pale, and cold to the touch. When on expoſing the boſom and face to colder air with the feet only ſlightly covered, the colour of the former in a few minutes became nearly natural, with little exceſs of tangible heat, and at the ſame time the feet became as warm as natural.

Whence

Whence I conclude, that all unneceſſary increaſe of ſtimuli, as of warm clothing, wine, and opium, is more injurious to feeble conſtitutions than to robuſt ones; and that ſuch ſtimuli alone are ſalutary to weak perſons, as increaſe thoſe actions of the ſyſtem, which are immediately neceſſary to life and health, as the claſs of medicines termed ſorbentia, as peruvian bark, and other bitters, and very ſmall quantities of ſteel, as theſe ſeem to increaſe the activity of the abſorbent ſyſtem, both of the lymphatic and venous ones, and thus ſupply more nutrition, with all its ſalutary conſequences. And that the uſe of theſe ſorbentia, as well as of the occaſional uſe of warmer clothing, wine, and opium, ſhould be diſcontinued, as ſoon as the ſyſtem can acquire the natural habit of acting with ſufficient energy without them. See Article II. 2. 2. 1. of the Materia Medica.

The increaſe of perſpiration by heat either of clothes, or of fire, contributes much to emaciate the body; as is well known to jockeys, who, when they are a ſtone or two too heavy for riding, find the quickeſt way to leſſen their weight is by ſweating themſelves between blankets in a warm room; but this likewiſe is a practice by no means to be recommended, as it weakens the ſyſtem by the exceſs of ſo general a ſtimulus, brings on a premature old age, and ſhortens the ſpan of life; as may be further deduced from the quick maturity, and ſhortneſs

ſhortneſs of the lives, of the inhabitants of Hindoſtan, and other tropical climates.

When the heat of the body in weak patients in fevers is increaſed by the ſtimulus of the points of flannel, a greater conſequent debility ſucceeds, than when it is produced by the warmth of fire; as in the former the heat is in part owing to the increaſed activity of the ſkin, and conſequent expenditure of ſenſorial power; whereas in the latter caſe it is in part owing to the influx of the fluid matter of heat.

So the warmth produced by equitation, or by rubbing the body and limbs with a ſmooth bruſh or hand, as is done after bathing in ſome parts of the Eaſt, does not expend nearly ſo much ſenſorial power, as when the warmth is produced by the locomotion of the whole weight of the body by muſcular action, as in walking, or running, or ſwimming. Whence the warmth of a fire is to be preferred to flannel ſhirts for weak people, and the agitation of a horſe to exerciſe on foot. And I ſuppoſe thoſe, who are unfortunately loſt in ſnow, who are on foot, are liable to periſh ſooner by being exhauſted by their muſcular exertions; and might frequently preſerve themſelves by lying on the ground, and covering themſelves with ſnow, before they were too much exhauſted by fatigue. See Botan. Garden, Vol. II. the note on Barometz.

M. Buffon made a curious experiment to ſhew this circumſtance. He took a numerous brood of

the butterflies of ſilkworms, ſome hundreds of which left their eggs on the ſame day and hour; theſe he divided into two parcels; and placing one parcel in the ſouth window, and the other in the north window of his houſe, he obſerved, that thoſe in the colder ſituation lived many days longer than thoſe in the warmer one. From theſe obſervations it appears, that the wearing of flannel clothing next the ſkin, which is now ſo much in faſhion, however uſeful it may be in the winter to thoſe, who have cold extremities, bad digeſtions, or habitual coughs, muſt greatly debilitate them, if worn in the warm months, producing fevers, eruptions, and premature old age. See Sect. XXXVII. 5. Claſs I. 1. 2. 14. Art. III. 2. 1.

4. *Urina uberior colorata.* Copious coloured urine. Towards the end of fever-fits a large quantity of high coloured urine is voided, the kidneys continuing to act ſtrongly, after the increaſed action of the abſorbents of the bladder is ſomewhat diminiſhed. If the abſorbents continue alſo to act ſtrongly, the urine is higher coloured, and ſo loaded as to depoſit, when cool, an earthy ſediment, erroneouſly thought to be the material cauſe of the diſeaſe; but is ſimply owing to the ſecretion of the kidneys being great from their increaſed action; and the thinner parts of it being abſorbed by the increaſed action of the lymphatics, which are ſpread very thick on the neck of the bladder; for the

urine,

urine, as well as perhaps all the other secreted fluids, is produced from the kidneys in a very dilute state; as appears in those, who from the stimulus of a stone, or other cause, evacuate their urine too frequently; which is then pale from its not having remained in the bladder long enough for the more aqueous part to have been re-absorbed. The general use of this urinary absorption to the animal œconomy is evinced from the urinary bladders of fish, which would otherwise be unnecessary. High coloured urine in large quantity shews only, that the secreting vessels of the kidneys, and the absorbents of the bladder, have acted with greater energy. When there is much earthy sediment, it shews, that the absorbents have acted proportionally stronger, and have consequently left the urine in a less dilute state. In this urine the transparent sediment or cloud is mucous; the opake sediment is probably coagulable lymph from the blood changed by an animal or chemical process. The floating scum is oil. The angular concretions to the sides of the pot, formed as the urine cools, is microcosmic salt. Does the adhesive blue matter on the sides of the glass, or the blue circle on it at the edge of the upper surface of the urine, consist of Prussian blue?

5. *Diarrhœa calida.* Warm diarrhœa. This species may be divided into three varieties, deduced from their remote causes, under the names of diarrhœa febrilis, diarrhœa crapulosa, and diarrhœa

infantum. The febrile diarrhœa appears at the end of fever-fits, and is erroneously called critical, like the copious urine, and the sweats; whereas it arises from the increased action of those secerning organs, which pour their fluids into the intestinal canal (as the liver, pancreas, and mucous glands,) continuing longer than the increased action of the intestinal absorbents. In this diarrhœa there is no appearance of curdled chyle in the stools, as occurs in cholera. I. 3. 1. 5.

The *diarrhœa crapulosa*, or diarrhœa from indigestion, occurs when too great a quantity of food or liquid has been taken; which not being completely digested, stimulates the intestines like any other extraneous acrid material; and thus produces an increase of the secretions into them of mucus, pancreatic juice, and bile. When the contents of the bowels are still more stimulant, as when drastic purges, or very putrescent diet, have been taken, a cholera is induced. See Sect. XXIX. 4.

The *diarrhœa infantum*, or diarrhœa of infants, is generally owing to too great acidity in their bowels. Milk is found curdled in the stomachs of all animals, old as well as young, and even of carnivorous ones, as of hawks. (Spallanzani.) And it is the gastric juice of the calf, which is employed to curdle milk in the process of making cheese. Milk is the natural food for children, and must curdle in their stomachs previous to digestion; and

as

as this curdling of the milk deſtroys a part of the acid juices of the ſtomach, there is no reaſon for diſcontinuing the uſe of it, though it is occaſionally ejected in a curdled ſtate. A child of a week old, which had been taken from the breaſt of its dying mother, and had by ſome uncommon error been ſuffered to take no food but water-gruel, became ſick and griped in twenty-four hours, and was convulſed on the ſecond day, and died on the third! When all young quadrupeds, as well as children, have this natural food of milk prepared for them, the analogy is ſo ſtrong in favour of its ſalubrity, that a perſon ſhould have powerful teſtimony indeed of its diſagreeing, before he adviſes the diſcontinuance of the uſe of it to young children in health, and much more ſo in ſickneſs. The farmers loſe many of their calves, which are brought up by gruel, or gruel and old milk; and among the poor children of Derby, who are thus fed, hundreds are ſtarved into the ſcrofula, and either periſh, or live in a ſtate of wretched debility.

When young children are brought up without a breaſt, they ſhould for the firſt two months have no food but new milk; ſince the addition of any kind of bread or flour is liable to ferment, and produce too much acidity; as appears by the conſequent diarrhœa with green dejections and gripes; the colour is owing to a mixture of acid with the natural quantity of bile, and the pain to its ſtimulus. And they ſhould never be fed as they lie upon their

backs, as in that poſture they are neceſſitated to ſwallow all that is put into their mouths; but when they are fed, as they are ſitting up, or raiſed up, when they have had enough, they can permit the reſt to run out of their mouths. This circumſtance is of great importance to the health of thoſe children, who are reared by the ſpoon, ſince if too much food is given them, indigeſtion, and gripes, and diarrhœa, are the conſequence; and if too little, they become emaciated; and of this exact quantity their own palates judge the beſt.

M. M. In this laſt caſe of the diarrhœa of children, the food ſhould be new milk, which by curdling deſtroys part of the acid, which coagulates it. Chalk about four grains every ſix hours, with one drop of ſpirit of hartſhorn, and half a drop of laudanum. But a bliſter about the ſize of a ſhilling is of the greateſt ſervice by reſtoring the power of digeſtion. See Article III. 2. 1. in the Materia Medica.

6. *Salivatio calida.* Warm ſalivation. Increaſed ſecretion of ſaliva. This may be effected either by ſtimulating the mouth of the gland by mercury taken internally; or by ſtimulating the excretory duct of the gland by pyrethrum, or tobacco; or ſimply by the movement of the muſcles, which lie over the gland, as in maſticating any taſteleſs ſubſtance, as a lock of wool, or maſtic.

In about the middle of nervous fevers a great

ſpitting

ſpitting of ſaliva ſometimes occurs, which has been thought critical; but as it continues ſometimes two or even three weeks without the relief of the patient, it may be concluded to ariſe from ſome accidental circumſtance, perhaps not unſimilar to the hyſteric ptyaliſms mentioned in Claſs I. 3. 2. 2. See Sect. XXIV.

M. M. Cool air, diluents, warm bath, evacuations.

7. *Catarrhus calidus.* Warm catarrh. Conſiſts in an increaſed ſecretion of mucus from the noſtrils without inflammation. This diſeaſe, which is called a cold in the head, is frequently produced by cold air acting for ſome time on the membranes, which line the noſtrils, as it paſſes to the lungs in reſpiration. Whence a torpor of the action of the mucous glands is firſt introduced, as in Claſs I. 2. 3. 3. and an orgaſm or increaſed action ſucceeds in conſequence. Afterwards this orgaſm and torpor are liable to alternate with each other for ſome time like the cold and hot fits of ague, attended with deficient or exuberant ſecretion of mucus in the noſtrils.

At other times it ariſes from reverſe ſympathy with ſome extenſive parts of the ſkin, which have been expoſed too long to cold, as of the head, or feet. In conſequence of the torpor of theſe cutaneous capillaries thoſe of the mucous mem-

brane of the noſtrils act with greater energy by reverſe ſympathy; and thence ſecrete more mucus from the blood. At the ſame time the abſorbents, acting alſo with greater energy by their reverſe ſympathy with thoſe of ſome diſtant part of the ſkin, abſorb the thinner parts of the mucus more haſtily; whence the mucus is both thicker and in greater quantity. Other curious circumſtances attend this diſeaſe; the membrane becomes at times ſo thickened by its increaſed action in ſecreting the mucus, that the patient cannot breathe through his noſtrils. In this ſituation if he warms his whole ſkin ſuddenly by fire or bed-clothes, or by drinking warm tea, the increaſed action of the membrane ceaſes by its reverſe ſympathy with the ſkin; or by the retraction of the ſenſorial power to other parts of the ſyſtem; and the patient can breathe again through the noſtrils. The ſame ſometimes occurs for a time on going into the cold air by the deduction of heat from the mucous membrane, and its conſequent inactivity or torpor. Similar to this when the face and breaſt have been very hot and red, previous to the eruption of the ſmall-pox by inoculation, and that even when expoſed to cool air, I have obſerved the feet have been cold; till on covering them with warm flannel, as the feet have become warm, the face has cooled. See Sect. XXXV. 1. 3. Claſs II. 1. 3. 5. IV. 2. 2. 10. IV. 1. 1. 5. M. M. Eva-

M. M. Evacuations, abſtinence, oil externally on the noſe, warm diluent fluids, warm ſhoes, warm night-cap.

8. *Expectoratio calida.* Warm expectoration conſiſts of the increaſed ſecretion of mucus from the membrane, which lines the bronchiæ, or air-cells of the lungs, without inflammation. This increaſed mucus is ejected by the action of coughing, and is called a cold, and reſembles the catarrh of the preceding article; with which it is frequently combined.

M. M. Inhaling the ſteam of warm water, evacuations, warm bath, afterwards opium, ſorbentia.

9. *Exſudatio pone aures.* A diſcharge behind the ears. This chiefly affects children, and is a morbid ſecretion; as appears from its fetor; for if it was owing to defect of abſorption, it would be ſaline, and not fetid; if a morbid action has continued a conſiderable time, it ſhould not be ſtopped too ſuddenly; ſince in that caſe ſome other morbid action is liable to ſucceed in its ſtead. Thus children are believed to have had colics, or even convulſions, conſequent to the too ſudden healing of theſe morbid effuſions behind their ears. The rationale of this is to be explained from a medical fact, which I have frequently obſerved; and that is, that a bliſter on the back greatly ſtrengthens the power of digeſtion, and removes the

the heart-burn in adults, and green ſtools in children. The ſtimulus of the bliſter produces ſenſation in the veſſels of the ſkin; with this additional ſenſorial power theſe veſſels act more ſtrongly; and with theſe the veſſels of the internal membranes of the ſtomach and bowels act with greater energy from their direct ſympathy with them. Now the acrid diſcharge behind the ears of children produces ſenſation on that part of the ſkin, and ſo far acts as a ſmall bliſter. When this is ſuddenly ſtopped, a debility of the digeſtive power of the ſtomach ſucceeds from the want of this accuſtomed ſtimulus, with flatulency, green ſtools, gripes, and ſometimes conſequent convulſions. See Claſs II. 1. 5. 6. and II. 1. 4. 6.

M. M. If the matter be abſorbed, and produce ſwelling of the lymphatics of the neck, it ſhould be cured as ſoon as poſſible by duſting the part with white lead, ceruſſa, in very fine powder; and to prevent any ill conſequence an iſſue ſhould be kept for about a month in the arm; or a purgative medicine ſhould be taken every other day for three or four times, which ſhould conſiſt of a grain of calomel, and three or four grains of rhubarb, and as much chalk. If there be no appearance of abſorption, it is better only to keep the parts clean by waſhing them with warm water morning and evening; or putting fuller's earth on them; eſpecially till the time of toothing is paſt. The tinea, or ſcald head, and a

leprous

leprous eruption, which often appears behind the ears, are different diseases.

10. *Gonorrhœa calida.* Warm gleet. Increased discharge of mucus from the urethra or prostate gland without venereal desire, or venereal infectio See Class I. 2. 3. 8.

M. M. Cantharides, balsams, rhubarb, blister on perinæum, cold bath, injections of metallic salts, flannel shirt, change of the form of the accustomed chair or saddle of the patient.

11. *Fluor albus calidus.* Warm fluor albus. Increased secretion of mucus in the vagina or uterus without venereal desire or venereal infection. It is distinguished from the fluor albus frigidus by the increased sense of warmth in the part, and by the greater opacity or spissitude of the material discharged; as the thinner parts are re-absorbed by the increased action of the absorbents, along with the saline part, whence no smarting or excoriation attends it.

M. M. Mucilage, as isinglass, hartshorn jelly, gum arabic. Ten grains of rhubarb every night. Callico or flannel shift, opium, balsams. See Class I. 2. 3. 7.

12. *Hæmorrhois alba.* White piles. An increased discharge of mucus from the rectum frequently mistaken for matter; is said to conti-

nue

nue a few weeks, and recur like the bleeding piles; and to obey lunar influence. See Claſs I. 2. 1. 6.

M. M. Abſtinence from vinous ſpirit. Balſam of copaiva. Spice ſwallowed in large fragments, as ten or fifteen black pepper-corns cut in half, and taken after dinner and ſupper. Ward's paſte, conſiſting of black pepper and the powdered root of Helenium Enula.

13. *Serum e veſicatorio.* Diſcharge from a bliſter. The excretory ducts of glands terminate in membranes, and are endued with great irritability, and many of them with ſenſibility; the latter perhaps in conſequence of their facility of being excitable into great action; inſtances of this are the terminations of the gall-duct in the duodenum, and of the ſalivary and lachrymal glands in the mouth and eye; which produce a greater ſecretion of their adapted fluids, when the ends of their excretory ducts are ſtimulated.

The external ſkin conſiſts of the excretory ducts of the capillaries, with the mouths of the abſorbents; when theſe are ſtimulated by the application of cantharides, or by a ſlice of the freſh root of bryonia alba bound on it, the capillary glands pour an increaſed quantity of fluid upon the ſkin by their increaſed action; and the abſorbent veſſels imbibe a greater quantity of the more fluid and ſaline part of it; whence a thick mucous

or

or ferous fluid is depofited between the fkin and cuticle.

14. *Perfpiratio fœtida.* Fetid perfpiration. The ufes of the perfpirable matter are to keep the fkin foft and pliant, for the purpofes of its eafier flexibility during the activity of our limbs in locomotion, and for the prefervation of the accuracy of the fenfe of touch, which is diffufed under the whole furface of it to guard us againft the injuries of external bodies; in the fame manner as the fecretion of tears is defigned to preferve the cornea of the eye moift, and in confequence tranfparent; yet has this cutaneous mucus been believed by many to be an excrement; and I know not how many fanciful theories have been built on its fuppofed obftruction. Such as the origin of catarrhs, coughs, inflammations, eryfipelas, and herpes.

To all thefe it may be fufficient to anfwer, that the ancient Grecians oiled themfelves all over; that fome nations have painted themfelves all over, as the Picts of this ifland; that the Hottentots fmear themfelves all over with greafe. And laftly, that many of our own heads at this day are covered with the flour of wheat and the fat of hogs, according to the tyranny of a filthy and wafteful fafhion, and all this without inconvenience. To this muft be added the ftrict analogy between the ufe of the perfpirable matter

and the mucous fluids, which are poured for ſimilar purpoſes upon all the internal membranes of the body; and beſides its being in its natural ſtate inodorous; which is not ſo with the other excretions of feces, or of urine.

The quantity of perſpirable matter being greater than that of the excrementitious matters voided by ſtool and urine, has been uſed as an argument in favour of its being an excrement; the force of which I do not ſee: but can readily underſtand, that there muſt of neceſſity be a great exhalation of a fluid, which is diffuſed over the whole external ſurface of the warm ſkin, and perhaps warmer lungs, for the purpoſe of keeping them moiſt and pliant, and which is perpetually renewed as it evaporates; but, if it be conceived to be an excrement, there ſeems to have been no neceſſity for its quantity being ſo great.

The evaporation of this great quantity of fluid, ſecreted on the ſurface of the ſkin and lungs, muſt carry off much heat from the body; and as both this ſecretion and conſequent evaporation will be in proportion to the activity of the cutaneous veſſels, and the heat occaſioned by their increaſed ſecretion, it would ſeem, that this evaporation of perſpirable matter is the cauſe which preſerves the animal body at the uniform degree of heat of 98; in the ſame manner as the evaporation of boiling water preſerves it at 212 degrees of Farenheit's ſcale.

The

The peculiar uſe of the perſpirable matter in preſerving the membranes moiſt, which line the air-pipes of the lungs, appears from the curious diſcovery of Dr. Prieſtley, that the oxygen of the atmoſphere will paſs through moiſt animal membranes, but not through dry ones, ſo that if the membranes of the trachea were to become dry, the animal muſt as immediately periſh as if he was to breathe azotic gas alone. See Sect. XXVIII. 2. of the preceding volume.

In ſome conſtitutions the perſpirable matter of the lungs acquires a diſagreeable odour; in others the axilla, and in others the feet, emit diſguſtful effluvia; like the ſecretions of thoſe glands, which have been called odoriferæ; as thoſe, which contain the caſtor in the beaver, and thoſe within the rectum of dogs, the mucus of which has been ſuppoſed to guard them againſt the great coſtiveneſs, which they are liable to in hot ſummers; and which has been thought to occaſion canine madneſs, but which, like their white excrement, is more probably owing to the deficient ſecretion of bile. Whether theſe odoriferous particles attend the perſpirable matter in conſequence of the increaſed action of the capillary glands, and properly be called excrementitious; that is, whether any thing is eliminated, which could be hurtful if retained; or whether they may only contain ſome of the eſſential oil of the animal; like the ſmell, which adheres to one's hand on ſtroking the hides

of

of ſome dogs; or like the effluvia, which is left upon the ground, from the feet of men and other creatures; and is perceptible by the nicer organs of the dogs, which hunt them, may admit of doubt.

Add to this, that ſome parts of the ſkin are liable to more profuſe perſpiration than other parts without poſſeſſing any fetid ſcent, as the ſkin of the face, on any more violent exerciſe. This ſeems to have been obſerved very early in the hiſtory of mankind, as it was ſaid, that our firſt parents ſhould earn their bread by the ſweat of their brow. Why this circumſtance does not attend other animals is a curious inquiry. Mankind ſoon learned to cover their bodies, except their faces, with clothes; when the face, by being more frequently expoſed to greater variations of heat and cold, acquired greater irritability, or ſenſibility, or aſſociability, and thus has become more excitable into greater action by the ſtimulus of exerciſe, or by that of food, or by the variolous infection, than other parts of the ſkin, as ſpoken of in Claſs IV. 1. 2. 12; which alſo appears by its ſympathy with diſeaſes of the liver or ſtomach by ſenſitive aſſociations, as in the gutta roſea. From all theſe analogous facts the profuſe ſweat, which exſudes from the face on exerciſe, does not appear to be an excrementitious fluid, but ſimply the conſequence of more violent action of the cutaneous or perſpirative glands.

M. M. Waſh

M. M. Waſh the parts twice a day with ſoap and water; with lime water; cover the feet with oiled ſilk ſocks, which muſt be waſhed night and morning. Cover them with charcoal recently made red hot, and beaten into fine powder and ſifted, as ſoon as cold, and kept well corked in a bottle, to be waſhed off and renewed twice a day. Internally rhubarb grains vi. or viii. every night, ſo as to procure a ſtool or two extraordinary every day, and thus by increaſing one evacuation to decreaſe another. Cool dreſs, diluting liquids?

15. *Crines novi.* New hairs. The black points on the faces of ſome people conſiſt of mucus, which is become viſcid, and which adheres in the excretory ducts of the glands of the ſkin; as dedeſcribed in Claſs I. 2. 2. 9. and which may be preſſed out by the fingers, and reſembles little worms. Similar to this would ſeem the fabrication of ſilk and of cobweb, by the ſilk-worm and ſpider; which is a ſecreted matter preſſed through holes, which are the excretory ducts of glands. And it is probable, that the production of hair on many parts of the body, and at different periods of life, may be effected by a ſimilar proceſs; and more eſpecially as every hair may be conſidered as a ſlender flexible horn, and is an appendage of the ſkin. See Sect. XXXIX. 3. 2. Now as there is a ſenſitive ſympathy between the glands, which ſecrete the ſemen, and the throat, as appears

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in the mumps; ſee Hydrophobia, Claſs IV. 1. 2. 7. and Parotitis, Claſs IV. 1. 2. 19. the growth of the beard at puberty ſeems to be cauſed by the greater action of the cutaneous glands about the chin and pubes in conſequence of their ſympathy with thoſe of the teſtes. But this does not occur to the female ſex at their time of puberty, becauſe the ſenſitive ſympathy in them ſeems to exiſt between the ſubmaxillary glands, and the pectoral ones; which ſecrete the milk, and afford pleaſure both by that ſecretion, and by the erection of the mammulæ, or nipples; and by delivering the milk into the mouth of the child; this ſenſitive ſympathy of the pectoral and ſubmaxillary glands in women is alſo obſervable in the Parotitis, or mumps, as above referred to.

When hairs grow on the face or arms ſo as to be diſagreeable, they may be thus readily removed without pain or any ill conſequence. Warm the ends of a pair of nippers or forceps, and ſtick on them a little reſin, or burgundy pitch; by theſe means each ſingle hair may be taken faſt hold of; and if it be then plucked off ſlowly, it gives pain; but if plucked off ſuddenly, it gives no pain at all; becauſe the vis inertiæ of the part of the ſkin, to which it adheres, is not overcome; and it is not in conſequence ſeparated from the cellular membrane under it. Some of the hairs may return, which are thus plucked off, or others may be induced to grow near them; but in a

little

little time they may be thus ſafely deſtroyed; which is much to be preferred to the methods ſaid to be uſed in Turkey to eradicate hair; ſuch as a mixture of orpiment and quick lime; or of liver of ſulphur in ſolution; which injure the ſkin, if they are not very nicely managed; and the hair is liable to grow again as after ſhaving; or to become white, if the roots of it have been much inflamed by the cauſticity of the application. See Claſs I. 2. 2. 11. on grey hairs.

ORDO I.

Increafed Irritation.

GENUS III.

With increafed Actions of the Abforbent Syftem.

THESE are not attended with fo great increafe of heat as in the former genus, becaufe the fluids probably undergo lefs chemical change in the glands of the abforbent fyftem; nor are the glands of the abforbent veffels fo numerous or fo extenfive as thofe of the fecerning ones. Yet that fome heat is produced by the increafed action of the abforbents appears from the greater general warmth of the fkin and extremities of feeble patients after the exhibition of the peruvian bark, and other medicines of the article Sorbentia.

SPECIES.

1. *Lingua arida.* Dry tongue occurs in thofe fevers, where the expired air is warmer than natural; and happens to all thofe, who fleep with their mouths open; the currents of air in refpiration increafing the evaporation. There is alfo a drynefs in the mouth from the increafed action of the abforbent veffels, when a floe or a crab-apple is mafticated; and after the perfpiration has been much

much increaſed by eating ſalt or ſpice, or after other copious ſecretions; as after drunkenneſs, cathartics, or fever fits, the mucus of the mouth becomes viſcid, and in ſmall quantity, from the increaſed abſorption, adhering to the tongue like a white ſlough. In the diabetes, where the thirſt is very great, this ſlough adheres more pertinaciouſly, and becomes black or brown, being coloured after a few days by our aliment or drink. The inſpiſſated mucus on the tongue of thoſe, who ſleep with their mouths open, is ſometimes reddened as if mixed with blood, and ſometimes a little blood follows the expuition of it from the fauces owing to its great adheſion. When this mucus adheres long to the papillæ of the tongue, the ſaliva, which it contains in its interſtices, like a ſponge, is liable to become putrid, and to acquire a bitter taſte, like other putrid animal ſubſtances; which is generally miſtaken for an indication of the preſence of bile.

M. M. Warm ſubacid liquids. See Claſs I. 2. 5. 8.

2. *Fauces aridæ.* Dry throat. The expuition of a frothy mucus with great and perpetual hawking occurs in hydrophobia, and is very diſtreſſing to the patient; which may be owing to the increaſed irritability or ſenſibility of the upper part of the œſophagus, which will not permit any fluid to reſt on it.

It affects ſome people after intoxication, when

the lungs remain ſlightly inflamed, and by the greater heat of the air in expiration the mucus becomes too haſtily evaporated, and is expectorated with difficulty in the ſtate of white froth.

I knew a perſon, who for twenty years always waked with his tongue and throat quite dry; ſo that he was neceſſitated to take a ſpoonful of water, as ſoon as he awoke; otherwiſe a little blood always followed the forcible expuition of the indurated mucus from his fauces. See Claſs II. 1. 3. 17.

M. M. Steel-ſprings fixed to the night-cap ſo as to ſuſpend the lower jaw and keep it cloſed; or ſprings of elaſtic gum. Or a pot of water ſuſpended over the bed, with a piece of liſt, or woollen cloth, depending from it, and held in the mouth; which will act like a ſyphon, and ſlowly ſupply moiſture, or barley water ſhould be frequently ſyringed into the mouth of the patient.

3. *Nares aridi.* Dry noſtrils with the mucus hardening upon their internal ſurface, ſo as to cover them with a kind of ſkin or ſcale, owing to the increaſed action of the abſorbents of this membrane; or to the too great dryneſs of the air, which paſſes into the lungs; or too great heat of it in its expiration.

When air is ſo dry as to loſe its tranſparency; as when a tremulous motion of it can be ſeen over corn-fields in a hot ſummer's day; or when a dry

miſt,

mist, or want of transparency of the air, is visible in very hot weather; the sense of smell is at the same time imperfect from the dryness of the membrane, beneath which it is spread.

4. *Expectoratio solida.* Solid expectoration. The mucus of the lungs becomes hardened by the increased absorption, so that it adheres and forms a kind of lining in the air-cells, and is sometimes spit up in the form of branching vessels, which are called polypi of the lungs. See Transact. of the College, London. There is a rattling or wheezing of the breath, but it is not at first attended with inflammation.

The Cynanche trachealis, or Croup, of Dr. Cullen, or Angina polyposa of Michaelis, if they differ from the peripneumony of infants, seem to belong to this genus. When the difficulty of respiration is great, venesection is immediately necessary, and then an emetic, and a blister. And the child should be kept nearly upright in bed as much as may be. See Tonsillitis, Class II. 1. 3. 3. and II. 1. 2. 4.

M. M. Diluents, emetics, essence of antimony, fœtid gums, onions, warm bath for half an hour every day for a month. Inhaling the steam of water, with or without volatile alkali. Soap.

5. *Constipatio alvi.* Costiveness from increased action of the intestinal absorbents. The feces are

hardened in lumps called ſcybala; which are ſometimes obliged to be extracted from the rectum with a kind of marrow ſpoon. This is ſaid to have happened from the patient having taken much ruſt of iron. The mucus is alſo hardened ſo as to line the inteſtines, and to come away in ſkins, rolled up as they paſs along, ſo as to reſemble worms, for which they are frequently miſtaken; and ſometimes it is evacuated in ſtill larger pieces, ſo as to counterfeit the form of the inteſtines, and has been miſtaken for a portion of them. Balls of this kind, nearly as heavy as marble, and conſiderably hard, from two inches to five in diameter, are frequently found in the bowels of horſes. Similar balls found in goats have been called Bezoar.

M. M. Cathartics. Diluents, fruit, oil, ſoap, ſulphur, warm bath. Sprinkling with cold water, cool clothing. See Claſs I. 2. 4. 18.

6. *Cutis arida*. Dry ſkin. This dry ſkin is not attended with coldneſs as in the beginning of feverfits. Where this cutaneous abſorption is great, and the ſecreted material upon it viſcid, as on the hairy ſcalp, the ſkin becomes covered with hardened mucus; which adheres ſo as not to be eaſily removed, as the ſcurf on the head; but is not attended with inflammation like the Tinea, or Lepra. The moiſture, which appears on the ſkin beneath reſinous or oily plaſters, or which is ſeen to adhere to ſuch plaſters, is owing to their preventing the

exhalation of the perſpirable matter, and not to their increaſing the production of it, as ſome have idly imagined.

M. M. Warm bathing, oil externally, oil-ſkin gloves, reſinous plaſters. Wax.

7. *Urina parca colorata.* Diminiſhed urine, which is high coloured, and depoſits an earthy ſediment, when cold, is owing to the great action of the urinary abſorbents. See Claſs I. 1. 2. 4. In ſome dropſies the cutaneous abſorbents are paralytic, as well as thoſe opening into the cellular membrane; and hence, no moiſture being acquired from the atmoſphere, or from the cellular membrane, great thirſt is excited; and great abſorption from all parts, where the abſorbents are ſtill capable of action. Hence the urine is in very ſmall quantity, and of deep colour, with copious ſediment; and the kidneys are erroneouſly blamed for not doing their office; ſtimulant diuretic medicines are given in vain; and very frequently the unhappy patient is reſtrained from quenching his thirſt, and dies a martyr to falſe theory.

M. M. Diluent liquids, and warm bathing, are the natural cure of this ſymptom; but it generally attends thoſe dropſies, which are ſeldom curable; as they are owing to a paralyſis both of the cutaneous and cellular lymphatics.

8. *Calculus felleus.* Gall-ſtone. From the too haſty

hasty absorption of the thinner parts of the bile, the remainder is left too viscid, and crystallizes into lumps; which, if too large to pass, obstruct the ductus choledochus, producing pain at the pit of the stomach, and jaundice. When the indurated bile is not harder than a boiled pea, it may pass through the bile-duct with difficulty by changing its form; and thus gives those pains, which have been called spasms of the stomach; and yet these viscid lumps of bile may afterwards dissolve, and not be visible among the feces.

In two instances I have seen from thirty to fifty gall-stones voided after taking an oil vomit as below. They were about the size of peas, and distinguishable when dry by their being inflammable like bad wax, when put into the flame of a candle. For other causes of jaundice, see Class I. 2. 4. 19.

M. M. Diluents, daily warm bathing. Ether mixed with yolk of egg and water. Unboiled acrid vegetables, as lettuce, cabbage, mustard, and cresses. When in violent pain, four ounces of oil of olives, or of almonds, should be swallowed; and as much more in a quarter of an hour, whether it stays or not. The patient should lie on the circumference of a large barrel, first on one side, and then on the other. Electric shocks through the gall-duct. Factitious Seltzer water made by dissolving one dram of sal soda in a pint of water; to half a pint of which made luke-warm add ten drops

drops of marine acid; to be drunk as ſoon as mixed, twice a day for ſome months. Opium muſt be uſed to quiet the pain, if the oil does not ſucceed, as two grains, and another grain in half an hour if neceſſary. See Claſs IV. 2. 2. 4.

9. *Calculus renis.* Stone of the kidney. The pain in the loins and along the courſe of the ureter from a ſtone is attended with retraction of the teſticle in men, and numbneſs on the inſide of the thigh in women. It is diſtinguiſhed from the lumbago or ſciatica, as theſe latter are ſeldom attended with vomiting, and have pain on the outſide of the thigh, ſometimes quite down to the ankle or heel. See Herpes and Nephritis.

Where the abſorption of the thinner parts of the ſecretion takes place too haſtily in the kidneys, the hardened mucus, and conſequent calculous concretions, ſometimes totally ſtop up the tubuli uriniferi, and no urine is ſecreted. Of this many die, who have drunk much vinous ſpirit, and ſome of them recover by voiding a quantity of white mucus, like chalk and water; and others by voiding a great quantity of ſand, or ſmall calculi. This hardened mucus frequently becomes the nucleus of a ſtone in the bladder. The ſalts of the urine, called microcoſmic ſalt, are often miſtaken for gravel, but are diſtinguiſhable both by their angles of cryſtallization, their adheſion to the ſides or bottom of the pot, and by their not being formed 'till the

urine

urine cools. Whereas the particles of gravel are generally without angles, and always drop to the bottom of the veſſel, immediately as the water is voided.

Though the proximate cauſe of the formation of the calculous concretions of the kidneys, and of chalk-ſtones in the gout, and of the inſoluble concretions of coagulable lymph, which are found on membranes, which have been inflamed in peripneumony, or rheumatiſm, conſiſts in the too great action of the abſorbent veſſels of thoſe parts; yet the remote cauſe in theſe caſes is probably owing to the inflammation of the membranes; which at that time are believed to ſecrete a material more liable to coagulate or concrete, than they would otherwiſe produce by increaſed action alone without the production of new veſſels, which conſtitutes inflammation. As defined in Claſs II. 1. 2.

The fluids ſecreted from the mucous membranes of animals are of various kinds and conſiſtencies. Hair, ſilk, ſcales, horns, finger-nails, are owing to natural proceſſes. Gall-ſtones, ſtones found in the inteſtines of horſes, ſcurf of the ſkin in leproſy, ſtones of the kidneys and bladder, the callus from the inflamed perioſteum, which unites broken bones, the calcareous cement, which repairs the injured ſhells of ſnails, the calcareous cruſt on the eggs of birds, the annually renewed ſhells of crabs, are all inſtances of productions from mucous membranes,

branes, afterwards indurated by abſorption of their thinner parts.

All theſe concretions contain phoſphoric acid, mucus, and calcareous earth in different proportions; and are probably ſo far analogous in reſpect to their component parts as well as their mode of formation. Some calcareous earth has been diſcovered after putrefaction in the coagulable lymph of animals. Fordyce's Elements of Practice. A little calcareous earth was detected by Scheele or Bergman in the calculus of the bladder with much phoſphoric acid, and a great quantity of phoſphoric acid is ſhewn to exiſt in oyſter-ſhells by their becoming luminous on expoſing them a while to the ſun's light after calcination; as in the experiments of Wilſon. Botanic Garden, P. I. Canto I. l. 182, note. The exchange of which phoſphoric acid for carbonic acid, or fixed air, converts ſhells into limeſtone, producing mountains of marble, or calcareous ſtrata.

Now as the hard lumps of calcareous matter, termed crabs' eyes, which are found in the ſtomachs of thoſe animals previous to the annual renewal of their ſhells, are rediſſolved, probably by their gaſtric acid, and again depoſited for that purpoſe; may it not be concluded, that the ſtone of the bladder might be diſſolved by the gaſtric juice of fiſh of prey, as of crabs, or pike; or of voracious young birds, as young rooks or hawks, or even of calves? Could not theſe experiments be tried by

collecting

collecting the gastric juice by putting bits of sponge down the throats of young crows, and retracting them by a string in the manner of Spallanzani? or putting pieces of calculus down the throat of a living crow, or pike, and observing if they become digested? and lastly, could not gastric juice, if it should appear to be a solvent, be injected and born in the bladder without injury by means of catheters of elastic resin, or caoutchouc?

M. M. Diluents. Cool dress. Frequent change of posture. Frequent horizontal rest in the day. Bathe the loins every morning with a sponge and cold water. Aerated alcaline water internally. Abstinence from all fermented or spirituous liquors. Whatever increases perspiration injures these patients, as it dissipates the aqueous particles, which ought to dilute the urine. When the constitution begins to produce gravel, it may I believe be certainly prevented by a total abstinence from fermented or spirituous liquors; by drinking much aqueous fluids; as toast and water, tea, milk and water, lemonade; and lastly by thin clothing, and sleeping on a hardish bed, that the patient may not lie too long on one side. See Class IV. 2. 2. 2. There is reason to believe, that the daily use of opium contributes to produce gravel in the kidneys by increasing absorption, when they are inflamed; in the same manner as is done by fermented or spirituous liquor. See Class I. 3. 2. 11.

When the kidneys are so obstructed with gravel, that

that no urine paſſes into the bladder; which is known by the external appearance of the lower part of the abdomen, which, when the bladder is full, ſeems as if contracted by a cord between the navel and the bladder; and by the tenſion on the region of the bladder diſtinguiſhable by the touch; or by the introduction of the catheter; the following methods of cure are frequently ſucceſsful. Veneſection to ſix or eight ounces, ten grains of calomel, and an infuſion of ſenna with ſalts and oil, every three hours, till ſtools are procured. Then an emetic. After the patient has been thus evacuated, a bliſter on the loins ſhould be uſed; and from ten to twenty electric ſhocks ſhould be paſſed through the kidneys, as large as can be eaſily borne, once or twice a day. Along with this method the warm bath ſhould be uſed for an hour once or twice a day. After repeated evacuations a clyſter, conſiſting of two drams of turpentine diſſolved by yolk of egg, and ſixty drops of tincture of opium, ſhould be uſed at night, and repeated, with cathartic medicines interpoſed, every night, or alternate nights. Aerated ſolution of alcali ſhould be taken internally, and balſam of copaiva, three or four times a day. Some of theſe patients recover after having made no water for nine or ten days.

If a ſtone ſticks in the ureter with inceſſant vomiting ten grains of calomel muſt be given in ſmall pills as above; and ſome hours afterwards infuſion of ſenna and ſalts and oil, if it can be made to ſtay

on

on the ſtomach. And after the purge has operated four or five times, an opiate is to be given, if the pain continues, conſiſting of two grains of opium. If this does not ſucceed, ten or twenty electric ſhocks through the kidney ſhould be tried, and the purgative repeated, and afterwards the opiate. The patient ſhould be frequently put into the warm bath for an hour at a time. Eighty or a hundred drops of laudanum given in a glyſter, with two drams of turpentine, are to be preferred to the two grains given by the ſtomach as above, when the pain and vomiting are very urgent.

10. *Calculus veſicæ.* Stone of the bladder. The nucleus, or kernel, of theſe concretions is always formed in the kidney, as above deſcribed; and paſſing down the ureter into the bladder, is there perpetually increaſed by the mucus and ſalts ſecreted from the arterial ſyſtem, or by the mucus of the bladder, diſpoſed in concentric ſtrata. The ſtones found in the bowels of horſes are alſo formed on a nucleus, and conſiſt of concentric ſpheres; as appears in ſawing them through the middle. But as theſe are formed by the indurated mucus of the inteſtines alone without the urinary ſalts, it is probable a difference would be found on their analyſis.

As the ſtones of the bladder are of various degrees of hardneſs, and probably differ from each other in the proportions at leaſt of their component

component parts; when a patient, who labours under this afflicting diſeaſe, voids any ſmall bits of gravel; theſe ſhould be kept in warm ſolutions of cauſtic alcali, or of mild alcali well aerated; and if they diſſolve in theſe ſolutions, it would afford greater hopes, that that which remains in the bladder, might be affected by theſe medicines taken by the ſtomach, or injected into the bladder.

To prevent the increaſe of a ſtone in the bladder much diluent drink ſhould be taken; as half a pint of water warmed to about eighty degrees, three or four times a day: which will not only prevent the growth of it, by preventing any microcoſmic ſalts from being precipitated from the urine, and by keeping the mucus ſuſpended in it; but will alſo diminiſh the ſtone already formed, by ſoftening, and waſhing away its ſurface. To this muſt be added cool dreſs, and cool bed-clothes, as directed above in the calculus renis.

When the ſtone is puſhed againſt or into the neck of the bladder, great pain is produced; this may ſometimes be relieved by the introduction of a bougie to puſh the ſtone back into the fundus of the bladder. Sometimes by change of poſture, or by an opiate either taken into the ſtomach, or by a clyſter.

A dram of ſal ſoda, or of ſalt of tartar, diſſolved in a pint of water, and well ſaturated with carbonic acid (fixed air), by means of Dr. Nooth's

 glaſs

glaſs apparatus, and drunk every day, or twice a day, is the moſt efficacious internal medicine yet diſcovered, which can be eaſily taken without any general injury to the conſtitution. An aerated alcaline water of this kind is ſold under the name of factitious Seltzer water, by J. Schweppe, at No. 8, King's-ſtreet, Holborn, London; which I am told is better prepared than can be eaſily done in the uſual glaſs-veſſels, probably by employing a greater preſſure in wooden ones.

A curious account is given in a letter to Sir John Sinclair from Colonel Martin; who aſſerts, that, after uſing bougies and injections into the bladder, the paſſage of the urethra became leſs ſenſible to pain, and he was enabled to introduce ſmall files (I ſuppoſe, with their backs ſmooth); and that by theſe he gradually filed away the ſtone, as it lay in the neck of the bladder. When the ſtone did not properly preſent itſelf, he introduced warm water by injection into the bladder, and thus, by again endeavouring to diſcharge it, brought forward the ſtone to the neck of it. He uſed the file three times in twenty-four hours from April till October. Medical Journal, No. II. p. 121. If this proceſs ſhould be again attempted, perhaps the file might be introduced through a flexible canula, with a metallic hood at the internal end of the canula to cover the back of the file, ſo as to prevent the friction of it againſt the urethra, or neck of the bladder. If the urethra, by

by frequent trials, ſhould become ſo inſenſible as to admit eaſily the frequent introduction of a metallic canula, might not two fine ſteel wires properly tempered be joined at one end by a hinge, and thus introduced through the canula into the bladder; and when protruded beyond the extremity of the canula, they might open by their elaſticity ſo as to receive the ſtone, and confine it againſt the end of the canula, by retracting them? The proper direction of the wire-ſprings, ſo as to open when they are puſhed through the canula, muſt be previouſly given them. If this could be managed, a ſmall file or borer might at the ſame time be introduced through the canula, the handles of which might conſiſt of joints to permit them to bend in all directions, and thus the ſtone might be broken to pieces by a few trials; or if it was a ſoft or fragile ſtone, the retraction of the wire-bow might divide it at every trial, till it became almoſt reduced to powder. A little mechanical ingenuity might be neceſſary in the conſtruction and uſe of this machinery; but I believe it not to be impracticable, ſince I read the above account of Colonel Martin, though I had often before thought of it with deſpair of its ſucceſsful application.

Lithotomy is the laſt reſource. Will the gaſtric juice of animals diſſolve calculi? Will fermenting vegetable juices, as ſweet-wort, or ſugar

and water in the act of fermentation with yeaſt, diſſolve any kind of animal concretions?

11. *Calculus arthriticus.* Gout-ſtones are formed on inflamed membranes, like thoſe of the kidneys above deſcribed, by the too haſty abſorption of the thinner and ſaline parts of the mucus. Similar concretions have been produced in the lungs, and even in the pericardium; and it is probable, that the oſſification, as it is called, of the minute arteries, which is ſaid to attend old age, and to precede ſome mortifications of the extremities, may be a proceſs of this kind.

As gout-ſtones lie near the ſurface, it is probable, that ether, frequently applied in their early ſtate, might render them ſo liquid as to permit their re-abſorption; which the ſtimulus of the ether might at the ſame time encourage.

12. *Rheumatiſmus chronicus.* Chronic rheumatiſm. After the acute rheumatiſm ſome inſpiſſated mucus, or material ſimilar to chalk-ſtones of the gout, which was ſecreted on the inflamed membrane, is probably left, owing to the too haſty abſorption of the thinner and ſaline part of it; and by lying on the faſcia, which covers ſome of the muſcles, pains them, when they move and rub againſt it, like any extraneous material.

The pain of the ſhoulder, which attends inflammations

flammations of the upper membrane of the liver, and the pains of the arms, which attend afthma dolorificum, or dropfy of the pericardium, are diftinguifhed from the chronic rheumatifm, as in the latter the pain only occurs on moving the affected mufcles.

M. M. Warm bath, cold bath, bandage of emplaftrum de minio put on tight, fo as to comprefs the part. Cover the part with flannel. With oiled filk. Rub it with common oil frequently. With ether. A blifter. A warmer climate. Venefection. A grain of calomel and a grain of opium for ten fucceffive nights. The Peruvian bark.

13. *Cicatrix vulnerum.* The fcar after wounds. In the healing of ulcers the matter is firft thickened by increafing the abforption in them; and then leffened, till all the matter is abforbed, which is brought by the arteries, inftead of being depofed in the ulcer.

M. M. This is promoted by bandage, by the forbentia externally, as powder of bark, white lead; folution of fugar of lead. And by the forbentia internally after evacuations. See Sect. XXXIII. 3 .2.

In thofe ulcers, which are made by the contact of external fire, the violent action of the fibres, which occafions the pain, is liable to continue,

 after

after the external heat is withdrawn. This ſhould be relieved by external cold, as of ſnow, ſalt and water recently mixed, ether, or ſpirits of wine, ſuffered to evaporate on the part.

The cicatrix of an ulcer generally proceeds from the edges of it; but in large ones frequently from the middle, or commences in ſeveral places at the ſame time; which probably contributes to the unevenneſs of large ſcars.

14. *Corneæ obfuſcatio.* Opacity of the cornea. There are few people, who have paſſed the middle of life, who have not at ſome time ſuffered ſome ſlight ſcratches or injuries of the cornea, which by not healing with a perfectly ſmooth ſurface, occaſion ſome refractions of light, which may be conveniently ſeen in the following manner: fill a tea-ſaucer with cream and tea, or with milk, and holding it to your lips, as if going to drink it, the imperfections of the cornea will appear like lines or blotches on the ſurface of the fluid, with a leſs white appearance than that ſurface. Thoſe blemiſhes of the eye are diſtinguiſhed from the muſcæ volitantes deſcribed in Claſs I. 2. 5. 3. by their being invariably ſeen at any time, when you look for them.

Ulcers may frequently be ſeen on the cornea after ophthalmy, like little pits or indentations beneath the ſurface of it; in this caſe no external

application

application ſhould be uſed, leſt the ſcar ſhould be left uneven; but the cure ſhould be confined to the internal uſe of thirty grains of bark twice a day, and from five to ten drops of laudanum at night, with five grains of rhubarb, if neceſſary.

After ulcers of the cornea, which have been large, the inequalities and opacity of the cicatrix obſcure the ſight: in this caſe, could not a ſmall piece of the cornea be cut out by a kind of trephine about the ſize of a thick briſtle, or a ſmall crow-quill, and would it not heal with a tranſparent ſcar? This experiment is worth trying, and might be done by a piece of hollow ſteel wire with a ſharp edge, through which might be introduced a pointed ſteel ſcrew; the ſcrew to be introduced through the opake cornea to hold it up, and preſs it againſt the cutting edge of the hollow wire or cylinder; if the ſcar ſhould heal without loſing its tranſparency, many blind people might be made to ſee tolerably well by this ſlight and not painful operation. An experiment I wiſh ſtrongly to recommend to ſome ingenious ſurgeon or oculiſt.

Or it may be attempted by preſſing one end of a ſmall canula on the centre of the cornea, and paſſing down it a bit of luna cornea, fixed in the end of a ſmaller canula, and thus introduced: the eye may be held ſteady by paſſing a thread by means of a ſmall curved needle through a part

of the tunica adjunctiva, which may be held by an affiftant, or by preffing on it the end of the canula as above, which might have a flat circular rim round its extremity for that purpofe.

ORDO

ORDO I.

Increaſed Irritation.

GENUS IV.

With increaſed Actions of other Cavities and Membranes.

SPECIES.

1. *Nictitatio irritativa.* Winking of the eyes is performed every minute without our attention, for the purpoſe of cleaning and moiſtening the eye-ball; as further ſpoken of in Claſs II. 1. 1. 8. When the cornea becomes too dry, it becomes at the ſame time leſs tranſparent; which is owing to the pores of it being then too large, ſo that the particles of light are refracted by the edges of each pore, inſtead of paſſing through it; in the ſame manner as light is refracted by paſſing near the edge of a knife. When theſe pores are filled with water, the cornea becomes again tranſparent. This want of tranſparency of the cornea is viſible ſometimes in dying people, owing to their inirritability, and conſequent neglect of nictitation.

The increaſe of tranſparency by filling the pores with fluid is ſeen by ſoaking white paper in oil; which from an opake body becomes very tranſparent, and accounts for a curious atmoſpheric phenomenon;

phenomenon; when there exiſts a dry miſt in a morning ſo as to render diſtant objects leſs diſtinct, it is a ſign of a dry day; when diſtant objects are ſeen very diſtinct, it is a ſign of rain. See Botan. Garden, Part I. add. note xxv. The particles of air are probably larger than thoſe of water, as water will paſs through leather and paper, which will confine air, hence when the atmoſphere is much deprived of moiſture, the pores of the dry air are ſo large, that the rays of light are refracted by their edges inſtead of paſſing through them. But when as much moiſture is added as can be perfectly diſſolved, the air becomes tranſparent; and opake again, when a part of this moiſture collects into ſmall ſpherules previous to its precipitation. This alſo accounts for the want of tranſparency of the air, which is ſeen in tremulous motions over corn-fields on hot ſummer-days, or over brick-kilns, after the flame is extinguiſhed, while the furnace ſtill remains hot.

2. *Deglutitio irritativa.* The deglutition of our ſaliva is performed frequently without our attention, and is then an irritative action in conſequence of the ſtimulus of it in the mouth. Or perhaps ſometimes for the purpoſe of diffuſing a part of it over the dry membranes of the fauces and pharynx; in the ſame manner as tears are diffuſed over the cornea of the eye by the act of nictitation to clean or moiſten it.

3. *Reſpiratio*

3. *Reſpiratio et Tuſſis irritativæ.* In the acts of reſpiration and of coughing there is an increaſed motion of the air-cells of the lungs owing to ſome ſtimulating cauſe, as deſcribed above in Claſs I. 1. 2. 8. and I. 1. 3. 4. and which are frequently performed without our attention or conſciouſneſs, and are then irritative actions; and thus differ from thoſe deſcribed in Claſs II. 1. 1. 2. and 5. To theſe increaſed actions of the air-cells are ſuperadded thoſe of the intercoſtal muſcles and diaphragm by irritative aſſociation. When any unnatural ſtimulus acts ſo violently on the organs of reſpiration as to induce pain, the ſenſorial power of ſenſation becomes added to that of irritation, and inflammation of the membranes of them is a general conſequence.

4. *Excluſio bilis.* The excluſion of the bile from the gall-bladder, and its derivation into the duodenum, is an irritative action in conſequence of the ſtimulus of the aliment on the extremity of the biliary duct, which terminates in the inteſtine. The increaſed ſecretion of tears is occaſioned in a ſimilar manner by any ſtimulating material in the eyes; which affects the excretory ducts of the lacrymal glands. A pain of the external membrane of the eye ſometimes attends any unuſual ſtimulus of it, then the ſenſorial power of ſenſation becomes added to that of irritation, and a ſuperficial inflammation is induced.

5. *Dentitio.*

5. *Dentitio.* Toothing. The pain of toothing often begins much earlier than is fuſpected; and is liable to produce convulſions; which are ſometimes relieved, when the gum ſwells, and becomes inflamed; at other times a diarrhœa ſupervenes, which is generally eſteemed a favourable circumſtance, and ſeems to prevent the convulſions by ſupplying another means of relieving the pain of dentition by irritative exertion; and a conſequent temporary exhauſtion of ſenſorial power. See Claſs I. 1. 2. 5. Sect. XXXV. 2. 1.

The convulſions from toothing generally commence long before the appearance of the teeth; but as the two middle inciſors of the lower jaw generally appear firſt, and then thoſe of the upper, it is adviſable to lance the gums over theſe longitudinally in reſpect to the jaw-bones, and quite down to the perioſteum, and through it.

As the convulſions attending the commencement of toothing are not only dangerous to life in their greateſt degree, but are liable to induce ſtupor or inſenſibility by their continuance even in a leſs degree, the moſt efficacious means ſhould be uſed to cure them.

M. M. Lance the gum of the expected teeth quite through the perioſteum longitudinally. Veneſection by the lancet or by two or three leeches. One grain of calomel as a purge. Tincture of jalap, five or ſix drops in water every three hours till it purges, to be repeated daily. After evacuations

cuations a ſmall bliſter on the back or behind the ears. And laſtly, two or three drops of laudanum according to the age of the child. Warm bath. See Claſs III. 1. 1. 5. and 6.

6. *Priapiſmus chronicus.* I have ſeen two caſes, where an erection of the penis, as hard as horn, continued two or three weeks without any venereal deſires, but not without ſome pain; the eaſieſt attitude of the patients was lying upon their backs with their knees up. At length the corpus cavernoſum urethræ became ſoft, and in another day or two the whole ſubſided. In one of them a bougie was introduced, hoping to remove ſome bit of gravel from the caput gallinaginis, camphor, warm bathing, opium, lime-water, cold aſperſion, bleeding in the veins of the penis, were tried in vain. One of them had been a free drinker, had much gutta roſacea on his face, and died ſuddenly a few months after his recovery from this complaint. Was it a paralyſis of the terminations of the veins, which abſorb the blood from the tumid penis? or from the ſtimulus of indurated ſemen in the ſeminal veſſels? In the latter caſe ſome venereal deſires ſhould have attended. Claſs III. 1. 2. 16.

The priapiſmus, which occurs to vigorous people in a morning before they awake, has been called the ſignum ſalutis, or banner of health, and is occaſioned by the increaſe of our irritability

or ſenſibility during ſleep, as explained in Sect. XVIII. 15.

7. *Diſtentio mammularum.* The diſtention of the nipples of lacteſcent women is at firſt owing to the ſtimulus of the milk. See Sect. XIV. 8. and Sect. XVI. 5. See Claſs II. 1. 7. 10.

8. *Deſcenſus uteri.* This is a very frequent complaint after bad labours, the fundus uteri becomes inverted and deſcends like the prolapſus ani.

M. M. All the uſual peſſaries are very inconvenient and ineffectual. A piece of ſoft ſponge about two inches diameter introduced into the vagina gives great eaſe to theſe patients, and ſupports the uterus; it ſhould have a ſtring put through it to retract it by.

There are alſo peſſaries now made of elaſtic gum, which are ſaid to be eaſily worn, and to be convenient, from their having a perforation in their centre.

9. *Prolapſus ani.* The lower part of the rectum becomes inverted, and deſcends after every ſtool chiefly in children; and thus ſtimulates the ſphincter ani like any other extraneous body.

M. M. It ſhould be duſted over with very fine powder of gum ſandarach, and then replaced. Aſtringent fomentations; as an infuſion of oak-

bark, or a ſlight ſolution of alum. Horizontal reſt frequently in the day.

10. *Lumbricus.* Round worm. The round worm is ſuſpected in children when the belly is tumid, and the countenance bloated and pale, with ſwelling of the upper lip. The generation of theſe worms is promoted by the too dilute ſtate of the bile, as is evident in the fluke-worm found in the biliary ducts and ſubſtance of the liver in ſheep; and in water-rats, in the livers of which laſt animals they were lately detected in large numbers by Dr. Capelle. Tranſactions of the college at Philadelphia, v. i.

Now as the dilute ſtate of the bile depends on the deficiency of the abſorption of its thinner parts, it appears, that the tumid belly, and bloated countenance, and ſwelled upper lip, are concomitant circumſtances attending the general inactivity of the abſorbent ſyſtem; which is therefore to be eſteemed the remote cauſe of the generation of worms.

The ſimplicity of the ſtructure of worms probably enables them to exiſt in more various temperatures of heat; and their being endued with life prevents them from being deſtroyed by digeſtion in the ſtomach, probably in the ſame manner as the powers of life prevent the fermentation and putrefaction of the ſtomach itſelf. Hence I conclude, that worms are originally taken into our

alimentary

alimentary canal from without; as I believe similar worms of all kinds are to be found out of the body.

M. M. The round worm is destroyed by a cathartic with four or six grains of calomel; and afterwards by giving six or eight grains of filings of iron twice a day for a fortnight. See Hepatis tumor, Class I. 2. 3. 9. As worms are liable to come away in fevers, whether of the hectic or putrid kind, could they be removed by purulent matter, or rotten egg, or putrid flesh, since in those fevers from the enfeebled action of the intestines the fæces become highly putrid.

The sharp spiculæ or hairs, which are found on the pods of cowhage, stizolobium siliqua hirsuta, have been recommended in worm-cases, and said to destroy them by mechanical puncture; the late Mr. Power of Polesworth assured me, he had had great success with this medicine, and gave about six or eight grains in a bolus three or four times on one day, with a brisk cathartic on the next day. Some have recommended chopped hair or bristles for this purpose. There are numerous sharp spiculæ in the fruit of the wild rose, which might be worth trying in this disease, and the hairs on full grown hairy caterpillars, if the animal be laid on the hand, especially between the fingers, are liable to stick in the skin, and to produce slight inflammation and itching, and might also be worth trying in worm-cases. But it is asserted in M. Vaillant's

lant's Travels in Africa, that when these insects feed on poisonous plants, they become themselves so venomous, that the natives collect a juice from them, with which when putrid they smear their war weapons to poison them.

11. *Tænia.* Tape-worm consists of a chain of animals extending from the stomach to the anus. See Sect. XXXIX. 2. 3. It frequently exists in cats, rats, and geese, and probably in many other animals.

The worms of this genus possess a wonderful power of retaining life. Two of them, which were voided by a pointer dog in consequence of violent purgatives, each of which were several feet in length, had boiling water poured on them in a basin; which seemed not much to inconvenience them. When the water was cool, they were taken out and put into gin or whiskey of the strongest kind, in which their life and activity continued unimpaired; and they were at length killed by adding to the spirit a quantity of corrosive sublimate. Medic. Comment. for 1791, p. 370.

The tape-worm is cured by an amalgama of tin and quicksilver, such as is used on the back of looking-glasses; an ounce should be taken every two hours, till a pound is taken; and then a brisk cathartic of Glauber's salt two ounces, and common salt one ounce, dissolved in two wine pints of water, half a pint to be taken every hour till it purges. The

worm extends from the ſtomach to the anus, and the amalgama tears it from the inteſtine by mechanical preſſure, acting upon it the whole way. Electric ſhocks through the duodenum greatly aſſiſt the operation. Large doſes of tin in powder. Iron filings in large doſes. The powder of fern-root ſeems to be of no uſe, as recommended by M. Noufflier. This worm, as well as the lumbricus or round-worm, is ſometimes brought up by vomiting; when either of theſe worms is in the ſtomach it gives a tickling ſenſation about the fauces, which parts ſympathize with the cardia ventriculi. See Annals of Medicine, 1797. Give an emetic of tartarized antimony, or of vitriol of zinc.

12. *Aſcarides.* Thread worms. Theſe worms are ſaid to be more frequent in ſome parts of this kingdom than in others, as near the fens of Lincolnſhire. Do they eſcape from the body and become flies, like the bott-worm in horſes? Do they crawl from one child to another in the ſame bed? Are they acquired from flies or worms, which are ſeen in putrid neceſſary houſes, as theſe worms as well as the tape-worms, are probably acquired from without? this may account for their re-appearance a few weeks or months after they have been deſtroyed; or can this happen from the eggs or parts of them remaining?

Aſcarides appear to be of two kinds, the common

mon ſmall one like a thread; which has a very ſharp head, as appears in the microſcope; and which is ſo tender, that the cold air ſoon renders it motionleſs; and a larger kind above an inch long, and nearly as thick as a very ſmall crow-quill, and which is very hard in reſpect to its texture, and very tenacious of life. One of theſe laſt was brought to me, and was immediately immerſed in a ſtrong ſolution of ſugar of lead, and lived in it a very long time without apparent inconvenience.

M. M. Aſcarides are ſaid to be weakened by twenty grains of cinnabar and five of rhubarb taken every night, but not to be cured by this proceſs. As theſe worms are found only in the rectum, variety of clyſters have been recommended. A clyſter conſiſting of one eighth or one fourth of an ounce of ſuccotrine aloes in powder boiled in a pint of milk or of gruel, till it is diſſolved, and injected once a week for many weeks, I believe has ſometimes effected a cure. I was informed of a caſe, where ſolutions of mercurial ointment were uſed as a clyſter every night for a month without ſucceſs. Clyſters of Harrowgate water are recommended, either of the natural, or of the factitious, as deſcribed below, which might have a greater proportion of liver of ſulphur in it. As the cold air ſoon deſtroys them, after they are voided, could clyſters of iced water be uſed with advantage? or of ſpirit of wine and water? or of ether and water? Might not a piece of candle, about an inch long,

or two ſuch pieces, ſmeared with mercurial ointment, and introduced into the anus at night, or twice a day, be effectual by compreſſing their nidus, as well as by the poiſon of the mercury?

The clyſters ſhould be large in quantity, that they may paſs high in the rectum, as two drams of tobacco boiled a minute in a pint of water. Or perhaps what might be ſtill more efficacious and leſs inconvenient, the ſmoke of tobacco injected by a proper apparatus every night, or alternate nights, for ſix or eight weeks. This was long ſince recommended, I think, by Mr. Turner of Liverpool; and the reaſon it has not ſucceeded, I believe to have been owing to the imperfections of the joints of the common apparatus for injecting the ſmoke of tobacco, ſo that it did not paſs into the inteſtine, though it was ſuppoſed to do ſo, as I once obſerved. The ſmoke ſhould be received from the apparatus into a large bladder; and it may then be certainly injected like the common clyſter with ſufficient force; otherwiſe oiled leathers ſhould be nicely put round the joints of the machine; and a wet cloth round the injecting pipe to prevent the return of the ſmoke by the ſides of it. Clyſters of carbonated hydrogen gas, or of other factitious airs, might be tried; or of the hairs of ſiliqua hirſuta.

Harrowgate water taken into the ſtomach, ſo as to induce ſix or ſeven ſtools every morning, for four or ſix weeks, is perhaps the moſt efficacious method

method in common uſe. A factitious Harrowgate water may be made probably of greater efficacy than the natural, by diſſolving one ounce of marine ſalt, (called bay ſalt) and half an ounce of magneſia Glauber's ſalt, (called Epſom ſalt, or bitter purging ſalt) in twenty-eight ounces of water. A quarter or half a pint of this is to be taken every hour, or two hours in the morning, till it operates, with a tea-ſpoonful of a ſolution of liver of ſulphur, which is to be made by putting an ounce of hepar ſulphuris into half a pint of water. See Claſs IV. 1. 2. 9.

13. *Dracunculus.* A thin worm brought from the coaſt of Guinea. It is found in the interſtices of the muſcles, and is many yards long; it makes a ſmall ulcer; which is cured by extracting an inch of the worm a day, and wrapping the extracted part ſlowly round a bit of tobacco-pipe till next day, ſo as not to break it. I have twice ſeen long worms, like a thick horſe hair, in water in July in this country, which appeared hard and jointed.

14. *Morpiones.* Crab-lice. The excrement of this animal ſtains the linen, and appears like diluted blood.

M. M. Spirit of wine. Mercurial ointment, ſhaving the part. Oil deſtroys other inſects, if they be quite covered with it, as the ticks on dogs, and would probably therefore deſtroy theſe. Its man-

ner of operation is by ſtopping up or filling their ſpiracula, or breathing pores; a few drops of oil poured on a waſp, ſo as to cover it, deſtroy it in a few ſeconds.

15. *Pediculi.* Lice. There is ſaid to be a diſeaſe, in which theſe animals are propagated in indeſtructible numbers, ſo as to deſtroy the patient.

M. M. Cleanlineſs, mercurial ointment, ſtavis acria in powder, or the tincture of it in ſpirit of wine. Spirit of wine alone? Bath of oil?

ORDO

ORDO I.

Increased Irritation.

GENUS V.

With increased Actions of the Organs of Sense.

SPECIES.

1. *Visus acrior.* Acuter sight. There have been instances of people, who could see better in the gloom of the evening, than in the stronger light of the day; like owls, and bats, and many quadrupeds, and flying insects. When the eye is inflamed, great light becomes eminently painful, owing to the increased irritative motions of the retina, and the consequent increased sensation. Thus when the eye is dazzled with sudden light, the pain is not owing to the motion of the iris; for it is the contraction of the iris, which relieves the pain from sudden light; but to the too violent contractions of the moving fibres, which constitute the extremities of the optic nerve.

2. *Auditus acrior.* The irritative ideas of hearing are so increased in energy as to excite our attention. This happens in some diseases of the epileptic kind, and in some fevers. Hence the whispering of the currents of air in a room, the respiration of the company, and noises before unperceived, become troublesome; and sounds louder than

usual, or unexpected, produce starting, and convulsions.

M. M. Put oil of almonds into the ears. Stop the meatus auditorius with cotton wool. Set the feet of the patient's bed on cushions, or suspend it by cords from the ceiling.

3. *Olfactus acrior.* The irritative ideas of smell from the increased action of the olfactive nerve excite our attention. Hence common odours are disagreeable; and are perceived from variety of objects, which were before thought inodorous. These are commonly believed to be hallucinations of the sense.

M. M. Snuff starch up the nostrils.

4. *Gustus acrior.* The irritative ideas of taste, as of our own saliva, and even of the atmospheric air, excite our attention; and common tastes are disagreeably strong.

M. M. Water. Mucilage. Vegetable acids. Scrape the tongue clean. Rub it with a sage-leaf and vinegar.

5. *Tactus acrior.* The irritative ideas of the nerves of touch excite our attention: hence our own pressure on the parts, we rest upon, becomes uneasy with universal soreness.

M. M. Soft feather-bed. Combed wool put under the patients, which rolls under them, as they

turn, and thus prevents their friction against the sheets. Drawers of soft leather. Plasters of cerate with calamy.

6. *Sensus caloris acrior.* Acuter sense of heat occurs in some diseases, and that even when the perceptible heat does not appear greater than natural to the hand of another person. See Class I. 1. 2. See Sect. XIV. 8. All the above increased actions of our organs of sense separately or jointly accompany some fevers, and some epileptic diseases; the patients complaining of the perception of the least light, noises in their ears, bad smells in the room, and bad tastes in their mouths, with soreness, numbness, and other uneasy feels, and with disagreeable sensations of general or partial heat.

7. *Sensus extensionis acrior.* Acuter sense of extension. The sense of extension was spoken of in Sect. XIV. 7. and XXXII. 4. The defect of distention in the arterial system is accompanied with faintness; and its excess with sensations of fulness, or weight, or pressure. This however refers only to the vascular muscles, which are distended by their appropriated fluids; but the longitudinal muscles are also affected by different quantities of extension, and become violently painful by the excess of it.

These pains of muscles and of membranes are

generally divided into acute and dull pains. The former are generally owing to increaſe of extenſion, as in pricking the ſkin with a needle; and the latter generally to defect of extenſion, as in cold head-aches; but if the edge of a knife, or point of a pin, be gradually preſſed againſt the fibres of muſcles or membranes, there would ſeem to be three ſtates or ſtages of this extenſion of the fibres; which have acquired names according to the degree or kind of ſenſation produced by the extenſion of them; theſe are 1. titillation or tickling; 2. itching; and the 3. ſmarting, as deſcribed below. See Sect. XIV. 9.

8. *Titillatio.* Tickling is a pleaſurable pain of the ſenſe of extenſion above mentioned, and therefore excites laughter; as deſcribed in Sect. XXXIV. 1. 4. The tickling of the noſtrils, which precedes the efforts of ſneezing, is owing to the increaſed irritation occaſioned by external ſtimulus; and is attended with a pleaſurable ſenſation in conſequence of the increaſed action of the part. When this action is exerted in a greater degree, the ſenſation becomes painful, and the convulſion of ſneezing enſues; as the pain in tickling the ſoles of the feet of children is relieved by laughter.

A lady after a bruiſe on her noſe by a fall was affected with inceſſant ſneezing, and relieved by ſnuffing ſtarch up her noſtrils. Perpetual ſneezings in the meaſles, and in catarrhs from cold, are ow-

ing to the ſtimulus of the ſaline part of the mucous effuſion on the membrane of the noſtrils. See Claſs II. 1. 1. 2.

9. *Pruritus.* Itching ſeems to be a greater degree of titillation, and to be owing to the ſtimulus of ſome acrid material, as the matter of the itch; or of the herpes on the ſcrotum, and about the anus; or from thoſe univerſal eruptions, which attend ſome elderly people, who have drunk much vinous ſpirit. It occurs alſo, when inflammations are declining, as in the healing of bliſters, or in the cure of ophthalmia, as the action of the veſſels is yet ſo great as to produce ſenſation; which, like the titillations that occaſion laughter, is perpetually changing from pleaſure to pain.

When the natural efforts of ſcratching do not relieve the pain of itching, it ſometimes increaſes ſo as to induce convulſions and madneſs. As in the furor uterinus, and ſatyriaſis, and in the ſphincter ani and ſcrotum. See Claſs II. 1. 4. 14. IV. 2. 2. 6.

M. M. Warm bath. Fomentation. Alcohol externally. Poultice. Oiled ſilk. Mercurial ointments on ſmall ſurfaces at once. See Claſs II. 1. 4. 12. Solutions of lead on ſmall ſurfaces at once.

10. *Dolor urens.* Smarting follows the edge of a knife in making a wound, and ſeems to be owing

ing to the diſtention of a part of a fibre, till it breaks. A ſmarting of the ſkin is liable to affect the ſcars left by herpes or ſhingles; and the callous parts of the bottoms of the feet; and around the baſes of corns on the toes; and frequently extends after ſciatica along the outſide of the thigh, and of the leg, and part of the foot. All theſe may be owing to the ſtimulus of extenſion, by blood or ſerum being forced into veſſels nearly coaleſced.

M. M. Emplaſtrum de minio put like a bandage on the part. Warm fomentation. Oil and camphor rubbed on the part. Oil-ſilk covering. A bliſter on the part. Ether, or alcohol, ſuffered to evaporate on the part.

11. *Conſternatio*. Surpriſe. As our eyes acquaint us at the ſame time with leſs than half of the objects, which ſurround us, we have learned to confide much in the organ of hearing to warn us of approaching dangers. Hence it happens, that if any ſound ſtrikes us, which we cannot immediately account for, our fears are inſtantly alarmed. Thus in great debility of body, the loud clapping of a door, or the fall of a fire-ſhovel, produces alarm, and ſometimes even convulſions; the ſame occurs from unexpected ſights, and in the dark from unexpected objects of touch.

In theſe caſes the irritability is leſs than natural, though it is erroneouſly ſuppoſed to be greater; and the mind is buſied in exciting a train of ideas

inattentive

inattentive to external objects; when this train of ideas is diffevered by any unexpected ftimulus, furprife is excited; as explained in Sect. XVII. 3. 7. and XVIII. 17. then as the fenfibility in thefe cafes is greater, fear becomes fuperadded to the furprife; ard convulfions in confequence of the pain of fear. See Sect. XIX. 2.

The proximate cause of furprife is the increafed irritation induced by fome violent ftimulus, which diffevers our ufual trains of ideas; but in difeafes of inirritability the frequent ftarting or furprife from founds not uncommon, but rather louder than ufual, as the clapping of a door, fhews, that the attention of the patient to a train of fenfitive ideas was previoufly ftronger than natural, and indicates an incipient delirium; which is therefore worth attending to in febrile difeafes.

ORDO

ORDO II.

Decreased Irritation.

GENUS I.

With decreased Action of the Sanguiferous System.

THE reader should be here apprized, that the words strength and debility, when applied to animal motions, may properly express the quantity of resistance such motions may overcome; but that, when they are applied to mean the susceptibility or insusceptibility of animal fibres to motion, they become metaphorical terms; as in Sect. XII. 2. 1. and would be better expressed by the words activity and inactivity.

There are three sources of animal inactivity; first, the defect of the natural quantity of stimulus on those fibres, which have been accustomed to perpetual stimulus; as the arterial and secerning systems. When their accustomed stimulus is for a while intermitted, as when snow is applied to the skin of the hands, an accumulation of sensorial power is produced; and then a degree of stimulus, as of heat, somewhat greater than that at present applied, though much less than the natural quantity, excites the vessels of the skin into violent action. We must observe, that a deficiency of stimulus in those fibres, which are not subject to perpetual stimulus, as the locomotive muscles, is not

not succeeded by accumulation of sensorial power; these therefore are more liable to become permanently inactive after a diminution of stimulus; as in strokes of the palsy, this may be called inactivity from defect of stimulus.

2. A second source of animal inactivity exists, when the sensorial power in any part of the system has been previously exhausted by violent stimuli; as the eyes after long exposure to great light; or the stomach, to repeated spirituous potation; this may be termed inactivity from exhaustion of sensorial power. See Sect. XII. 2. 1.

3. But there is a third source of inactivity owing to the deficient production of sensorial power in the brain; and hence stimuli stronger than natural are required to produce the accustomed motions of the arterial system; in this case there is no accumulation of sensorial power produced; as in the inactivity owing to defect of stimulus; nor any previous exhaustion of it, as in the inactivity owing to excess of stimulus.

This third kind of inactivity causes many of the diseases of this genus; which are therefore in general to be remedied by such medicines as promote a greater production of sensorial power in the brain; as the incitantia, consisting of wine, beer and opium, in small repeated quantities; and secondly of such as simply stimulate the arterial and glandular system into their natural actions; as small repeated blisters, spices and essential oils.

And

And laſtly the ſorbentia, which contribute to ſupply the more permanent ſtrength of the ſyſtem, by promoting the abſorption of nouriſhment from the ſtomach and inteſtines; and of the ſuperfluous fluid, which attends the ſecretions.

SPECIES.

1. *Febris inirritativa.* Inirritative fever. This is the typhus mitior, or nervous fever of ſome writers; it is attended with weak pulſe without inflammation, or ſymptoms of putridity, as they have been called. When the production of ſenſorial power in the brain is leſs than uſual, the pulſe becomes quick as well as weak; and the heart ſometimes trembles like the limbs of old age, or of enfeebled drunkards; and when this force of the contractions of the heart and arteries is diminiſhed, the blood is puſhed on with leſs energy, as well as in leſs quantity, and thence its ſtimulus on their ſides is diminiſhed in a duplicate ratio. In compreſſions of the brain, as in apoplexy, the pulſe becomes ſlower and fuller; for in that diſeaſe, as in natural ſleep, the irritative motions of the heart and arteries are not diminiſhed, volition alone is ſuſpended or deſtroyed.

If the abſorption of the terminations of the veins is not equally impaired with the force of the heart and arteries, the blood is taken up by the

the veins the inſtant it arrives at their extremities; the capillary veſſels are left empty, and there is leſs reſiſtance to the current of the blood from the arteries; hence the pulſe becomes empty, as well as weak and quick; the veins of the ſkin are fuller than the arteries of it; and its appearance becomes pale, bluiſh, and ſhrunk. See Claſs II. 1. 3. 1.

When this pulſe perſiſts many hours, it conſtitutes the febris inirritativa, or typhus, or nervous fever, of ſome writers; it is attended with little heat, the urine is generally of a natural colour, though in leſs quantity; with great proſtration of ſtrength, and much diſturbance of the faculties of the mind. Its immediate cauſe ſeems to be a deficient ſecretion of the ſenſorial power from the inaction of the brain; hence almoſt the whole of the ſenſorial power is expended in the performance of the motions neceſſary to life, and little of it can be ſpared for the voluntary actions of the locomotive muſcles, or organs of ſenſe, ſee Claſs I. 2. 5. 3. Its more remote cauſe may be from a paralyſis or death of ſome other part of the body; as of the ſpleen, when a tumour is felt on the left ſide, as in ſome intermittents; or of the kidneys, when the urine continues pale and in ſmall quantity. Does the reviveſcence of theſe affected parts, or their torpor, recurring at intervals, form the paroxyſms of theſe fevers? and

their permanent revivefcence eftablifh the cure? See Clafs IV. 2. 1. 19.

The inirritative fever differs from the puerperal and from the hectic fever, by the permanent inactivity of the ftomach, which in this difeafe admits of no folid nutriment. See Clafs II. 1. 6. 16. and Suppl. I. 12.

M. M. Wine and opium in fmall quantities repeated every three hours alternately; fmall repeated blifters; warm but frefh air; forbentia; nutrientia; transfufion of blood. Small electric fhocks paffed through the brain in all directions. Oxygene air?

2. *Parefis inirritativa.* Inirritative debility. A defective action of the irritative motions without increafe of the frequency of the pulfe. It continues three or four weeks like a fever, and then either terminates in health, or the patient finks into one kind of apoplexy, and perifhes. Many fymptoms, which attend inirritative fevers, accompany this difeafe, as cold hands and feet at periodic times, fcurf on the tongue, want of appetite, muddy urine, with pains of the head, and fometimes vertigo, and vomiting.

This difeafe differs from the inirritative fever by the pulfe not being more frequent than in health. The want of appetite and of digeftion is a principal fymptom, and probably is the caufe of the

universal debility, which may be occasioned by the want of nourishment. The vertigo is a symptom of inirritability, as shewn in Class IV. 1. 2. 6. the muddy urine is owing to increased absorption from the bladder in consequence of the diminished cutaneous and cellular absorption, as in anasarca, explained in Sect. XXIX. 5. 1. and is therefore a consequence of the inirritability of that part of the system; the foul tongue is owing to an increased absorption of the thinner part of the mucus in consequence of the general deficiency of fluid, which should be absorbed by the skin and stomach. The sickness is owing to decreased action of the stomach, which is probably the primary disease, and is connected with the vertigo.

M. M. An emetic. Calomel, grains iv. once or twice. Then a blister. Peruvian bark. Valerian. Columbo. Steel. Opium and wine in small quantities, repeated alternately every three hours. Small electric percussions through the stomach.

3. *Somnus interruptus.* Interrupted sleep. In some fevers, where the inirritability is very great, when the patient falls asleep, the pulse in a few minutes becomes irregular, and the patient awakes in great disorder, and fear of dying, refusing to sleep again from the terror of this uneasy sensation. In this extreme debility there is reason to believe, that some voluntary power during our waking

hours is employed to aid the irritative ftimuli in carrying on the circulation of the blood through the lungs; in the fame manner as we ufe voluntary exertions, when we liften to weak founds, or wifh to view an object by a fmall light; in fleep volition is fufpended, and the deficient irritation alone is not fufficient to carry on the pulmonary circulation. This explanation feems the moft probable one, becaufe in cafes of apoplexy the irritative motions of the arterial fyftem do not feem to be impaired, nor in common fleep. See Incubus III. 2. 1. 13.

M. M. Opium in very fmall dofes, as three drops of laudanum. A perfon fhould watch the patient, and awaken him frequently; or he fhould meafure the time between flumber and flumber by a ftop-watch, and awaken the patient a little before he would otherwife awake; or he fhould keep his finger on the pulfe, and fhould forcibly awaken him, as foon as it becomes irregular, before the diforder of the circulation becomes fo great as to difturb him. See Clafs I. 2. 1. 9. and Sect. XXVII. 2.

4. *Syncope.* Fainting confifts in the decreafed action of the arterial fyftem; which is fometimes occafioned by defect of the ftimulus of diftention, as after venefection, or tapping for the dropfy. At other times it arifes from great emotions of the mind, as in fudden joy or grief. In thefe cafes

the whole ſenſorial power is exerted on theſe intereſting ideas, and becomes exhauſted. Thus during great ſurpriſe or fear the heart ſtops for a time, and then proceeds with throbbing and agitation; and ſometimes the vital motions become ſo deranged, as never to recover their natural ſucceſſive action; as when children have been frightened into convulſions. See Sect. XII. 7. 1.

Miſs ——, a young lady of Stafford, in travelling in a chaiſe was ſo affected by ſeeing the fall of a horſe and poſtillion, in going down a hill, though the carriage was not overturned, that ſhe fainted away, and then became convulſed, and never ſpoke afterwards; though ſhe lived about three days in ſucceſſive convulſions and ſtupor.

5. *Hæmorrhagia venoſa.* A bleeding from the capillaries ariſing from defect of venous abſorption, as in ſome of thoſe fevers commonly termed putrid. When the blood ſtagnates in the cellular membrane, it produces petechiæ from this torpor or paralyſis of the abſorbent mouths of the veins. It muſt be obſerved, that thoſe people who have diſeaſed livers, are more liable to this kind of hæmorrhages, as well as to the hæmorrhagia arterioſa; the former, becauſe patients with diſeaſed livers are more ſubject to paralytic complaints in general, as to hemiplegia, and to dropſy, which is a paralyſis of the lymphatics; and the latter is probably owing to the delay of the circulation in

the vena porta by the torpor of this hepatic veſſel, when the liver is not much enlarged; and to its preſſure on the vena cava, when it is much enlarged.

I have ſeen two elderly men, and one middle aged woman, all of whom had drunk too much fermented or ſpirituous liquors, and had been for ſome months gradually ſinking, were ſeized with a ceaſeleſs hæmorrhage from their mouths, and from every part of the ſkin, where they happened to ſcratch themſelves, which continued ſome days till they died. See Sect. XXVII. 2.

M. M. Vitriolic acid, opium, ſteel, bark. Sponge bound on the part. Steel diſſolved in ſpirit of wine externally. Flour.

6. *Hæmorrhois cruenta.* In the bleeding piles the capillary veſſels of the rectum become diſtended and painful from the defect of the venous abſorption of the part, and at length burſt; or the mucous glands are ſo dilated as to give a paſſage to the blood; it is ſaid to obſerve lunar periods.

M. M. Veneſection, poultices, cathartics, ſpice, cold bath, and ſorbentia. External compreſſion by applying lint, ſponge, or cotton. Internal compreſſion by applying a bit of candle ſmeared with mercurial ointment. Strangulate the tumid piles with a ſilk ſtring. Cut them off. See Sect. XXVII. 2.

Mrs.

Mrs. —— had for twelve or fifteen years, at intervals of a year or leſs, a bleeding from the rectum without pain; which however ſtopped ſpontaneouſly after ſhe became weakened, or by the uſe of injections of brandy and water. Lately the bleeding continued above two months, in the quantity of many ounces a day, 'till ſhe became pale and feeble to an alarming degree. Injections of ſolutions of lead, of bark and ſalt of ſteel, and of turpentine, with ſome internal aſtringents, and opiates, were uſed in vain. An injection of the ſmoke of tobacco, with ten grains of opium mixed with the tobacco, was uſed, but without effect the two firſt times on account of the imperfection of the machine; on the third time it produced great ſickneſs, and vertigo, and nearly a fainting fit; from which time the blood entirely ſtopped. Was this owing to a fungous excreſcence in the rectum; or to a blood-veſſel being burſt from the difficulty of the blood paſſing through the vena porta from ſome hepatic obſtruction, and which had continued to bleed ſo long? Was it ſtopped at laſt by the fainting fit? or by the ſtimulus of the tobacco?

7. *Hæmorrhagia renum.* Hæmorrhage from the kidneys, when attended with no pain, is owing to defect of venous abſorption in the kidney. When attended with pain on motion, it is owing to a bit of gravel in the ureter or pelvis of the kidney;

which is a much more frequent diſeaſe than the former. See Sect. XXVII. 1.

M. M. 1. Veneſection in ſmall quantity, calomel, bark, ſteel, an opiate; cold immerſion up to the navel, the upper part of the body being kept clothed. Neville-Holt water. 2. Alcalized water aerated. Much diluent liquids. Cool dreſs. Cool bed-room.

Cows are much ſubject to bloody urine, called foul water by the farmers; in this diſeaſe about ſixty grains of opium with or without as much ruſt of iron, given twice a day, in a ball mixed with flour and water, or diſſolved in warm water, or warm ale, are, I believe, an efficacious remedy, to which however ſhould be added about two quarts of barley or oats twice a day, and a cover at night, if the weather be cold.

8. *Hæmorrhagia hepatis.* Hæmorrhage from the liver. It ſometimes happens in thoſe, who have the gutta roſea, or paralytic affections owing to diſeaſed livers induced by the potation of fermented liquors, that a great diſcharge of black viſcid blood occaſionally comes away by ſtool, and ſometimes by vomiting: this the ancients called melancholia, black bile. If it was bile, a ſmall quantity of it would become yellow or green on dilution with warm water, which was not the caſe in one experiment which I tried; it muſt remain ſome

time

time in the inteſtines from its black colour, when it paſſes downwards, and probably comes from the bile-ducts, and is often a fatal ſymptom. When it is evacuated by vomiting it is leſs dangerous, becauſe it ſhews greater remaining irritability of the inteſtinal canal, and is ſometimes ſalutary to thoſe who have diſeaſed livers.

Two elderly men, who had loſt their appetite for animal food, which is always a dangerous ſymptom, when it occurs to thoſe who have drunk too much fermented liquor, obſerved, that they parted with black ſtools. One of them alſo had the mucus of his noſtrils occaſionally ſtained with blood. The black ſtools appeared evidently to conſiſt of the coagulum of blood, ſometimes without other feces. After a few weeks, they both ſunk under this diſcharge, which I ſuppoſed to proceed from the liver, as it never appeared florid in any part of it. See Section XXVII. 2.

M. M. An emetic. Rhubarb, ſteel, wine, bark, opium.

9. *Hæmoptoe venoſa.* Venous hæmoptoe frequently attends the beginning of the hereditary conſumptions of dark-eyed people; and in others, whoſe lungs have too little irritability. Theſe ſpittings of blood are generally in very ſmall quantity, as a tea-ſpoonful; and return at firſt periodically, as about once a month; and are leſs dangerous in the female than in the male ſex; as in the

the former they are often relieved by the natural periods of the menfes. Many of thefe patients are attacked with this pulmonary hæmorrhage in their firft fleep; becaufe in feeble people the power of volition is neceffary, befides that of irritation, to carry on refpiration perfectly; but, as volition is fufpended during fleep, a part of the blood is delayed in the veffels of the lungs, and in confequence effufed, and the patient awakes from the difagreeable fenfation. See Clafs I. 2. 1. 3. II. 1. 6. 6. III. 2. 1. 10. and Sect. XXVII. 2.

M. M. Wake the patient every two or three hours by an alarum clock. Give half a grain of opium at going to bed, or twice a day. Onions, garlic, flight chalybeates. Iffues. Leeches applied once a fortnight or month to the hemorrhoidal veins to produce a new habit. Emetics after each period of hæmoptoe, to promote expectoration, and diflodge any effufed blood, which might by remaining in the lungs produce ulcers by its putridity. A hard bed, to prevent too found fleep. A periodical emetic or cathartic once a fortnight.

10. *Palpitatio cordis.* The palpitation of the heart frequently attends the hæmoptoe above mentioned; and confifts in an ineffectual exertion of the heart to pufh forwards its contents in due time, and with due force. The remote caufe is frequently

quently ſome impediment to the general circulation; as the torpor of the capillaries in cold paroxyſms of fever, or great adheſions of the lungs. At other times it ariſes from the debility of the action of the heart owing to the deficient ſenſorial power of irritation or of aſſociation, as at the approach of death.

In both theſe caſes of weak exertion the heart feels large to the touch, as it does not completely empty itſelf at each contraction; and on that account contracts more frequently, as deſcribed in Sect. XXXII. 2. 2. Another kind of palpitation may ſometimes ariſe from the retrograde motions of the heart, as in fear. See Claſs I. 3. 1. 2. and IV. 3. 1. 6.

11. *Menorrhagia.* Continued flow of the catamenia. The monthly effuſion of blood from the uterus or vagina is owing to a torpor of the veins of thoſe membranes in conſequence of the defect of venereal ſtimulus; and in this reſpect reſembles the mucus diſcharged in the periodical venereal orgaſm of the female quadrupeds, which are ſecluded from the males. The menorrhagia, or continued flow of this diſcharge, is owing to a continued defect of the venous abſorption of the membranes of the uterus or vagina. See Claſs IV. 2. 4. 7.

M. M. Veneſection in ſmall quantity. A cathartic. Then opium, a grain every night. Steel. Bark.

Bark. A blifter. Topical afperfion with cold water, or cold vinegar.

One caufe of exceffive menftruation, which fometimes recurs monthly, and continues for a fortnight at each period, and is fucceeded by fluor albus during the intervals, I have fufpected to arife, like the bleeding piles, from enlargement of the liver, which is liable to occur about the age of forty to thofe who have drank much ftrong fmall beer, or wine; or to thofe who have unfortunately been long accuftomed to the ufe of tight ftays, or other bandages round their bowels. In thefe fituations 6 or 8 grains of rhubarb fhould be taken every night for months, or even years. Calomel, 4 or 6 grains fhould be taken as a cathartic one a month. A flannel drefs on the legs, thighs, and lower body may be ufeful in the cold feafon, but injurious in the warmer months. Weak acid of vitriol ten drops, two or three times a day; fteel in very fmall quantity; and a very loofe drefs round the body; are recommended.

12. *Dyfmenorrhagia.* A difficulty of menftruation attended with pain. In this complaint the torpor of the uterine veffels, which precedes menftruation, is by fympathy accompanied with a torpor of the lumbar membranes, and confequent pain; and frequently with cold extremities, and general debility. The fmall quantity and difficulty of the difcharge is owing to arterial in-

activity,

activity, as in chlorosis. Whence it happens, that chalybeate medicines are of efficacy both to stop or prevent too great menstruation, and to promote or increase deficient menstruation; as the former is owing to inirritability of the veins, and the latter of the arteries of the uterus. See Article IV. 2. 6. in the Materia Medica.

M. M. Opium, steel, pediluvium. Warm bath.

13. *Lochia nimia*. Too great discharge after delivery. In that unnatural practice of some hasty accoucheurs of introducing the hand into the uterus immediately after the delivery of the child, and forcibly bringing away the placenta, it frequently happens, that a part of it is left behind; and the uterus, not having power to exclude so small a portion of it, is prevented from complete contraction, and a great hæmorrhage ensues. In This circumstance a bandage with a thick compress on the lower part of the belly, by appressing the sides of the uterus on the remaining part of the placenta, is likely to check the hæmorrhage, like the application of a pledget of any soft substance on a bleeding vessel.

In other cases the lochia continues too long; or in too great quantity, owing to the deficiency of venous absorption.

M. M. An enema. An opiate. A blister. Slight chalybeates. Peruvian bark. Cloths dipped

dipped in cold vinegar and applied externally. Bandages on the limbs to keep more blood in them for a time have been recommended.

14. *Abortio ſpontanea.* Some delicate ladies are perpetually liable to ſpontaneous abortion, before the third, or after the ſeventh, month of geſtation. From ſome of theſe patients I have learnt, that they have awakened with a ſlight degree of difficult reſpiration, ſo as to induce them to riſe haſtily up in bed; and have hence ſuſpected, that this was a tendency to a kind of aſthma, owing to a deficient abſorption of blood in the extremities of the pulmonary or bronchial veins; and have concluded from thence, that there was generally a deficiency of venous abſorption; and that this was the occaſion of their frequent abortion. Which is further countenanced, where a great ſanguinary diſcharge precedes or follows the excluſion of the fetus.

Miſcarriages are ſometimes induced by what is termed a retroverſion of the uterus, in which the fundus uteri is retroverted and preſſed down between the rectum and the vagina. This can only occur in the firſt or ſecond month of geſtation, and is generally preceded by a difficulty of making water, and a conſequent tumour of the bladder; a violent pain about the perinæum or rectum is thus cauſed, and a miſcarriage is liable to follow. Draw off the urine with a catheter; inject an

enema

enema with ſixty drops of tincture of opium, if it can be done. If it recurs frequently after the miſcarriage, a wax candle, or a peſſary, made by rolling ſome emplaſtrum de minio ſpread on linen, may be introduced into the rectum, and worn as a compreſs to prevent the return for a few days, till the parts recover their ſtrength. See London Medical Obſervations, Vol. IV. p. 388. and Dr. Hunter's Tables of the Gravid Uterus.

M. M. Opium, bark, chalybeates in ſmall quantity. Change to a warmer climate. I have directed with ſucceſs in four caſes half a grain of opium twice a day for a fortnight, and then a whole grain twice a day during the whole geſtation. One of theſe patients took beſides twenty grains of Peruvian bark for ſeveral weeks. By theſe means being exactly and regularly perſiſted in, a new habit became eſtabliſhed, and the uſual miſcarriages were prevented.

Miſcarriages more frequently happen from eruptive fevers, and from rheumatic ones, than from other inflammatory diſeaſes. I ſaw a moſt violent pleuriſy and hepatitis cured by repeated veneſection about a week or ten days before parturition; yet another lady whom I attended, miſcarried at the end of the chicken pox, with which her children were at the ſame time affected. Miſcarriages towards the termination of the ſmall-pox are very frequent, yet there have been a few inſtances of children, who have been born with the eruption

on

on them. The blood in the ſmall pox will not inoculate that diſeaſe, if taken before the commencement of the ſecondary fever; as ſhewn in Sect. XXXIII. 2. 10. becauſe the contagious matter is not yet formed, but after it has been oxygenated through the cuticle in the puſtules, it becomes contagious; and if it be then abſorbed, as in the ſecondary fever, the blood of the mother may become contagious, and infect the child. The ſame mode of reaſoning is applicable to the chicken pox. See Claſs IV. 3. 1. 7.

15. *Scorbutus.* Sea-ſcurvy is cauſed by ſalt diet, the perpetual ſtimulus of which debilitates the venous and abſorbent ſyſtems; and may alſo be promoted by the ſea-air, which is known to be ſo injurious to moſt vegetables, which grow near the coaſts, and has been perhaps incautiouſly recommended to conſumptive patients. See Claſs II. 1. 6. 7. Hence the blood is imperfectly taken up by the veins from the capillaries, whence brown and black ſpots appear upon the ſkin without fever. The limbs become livid and edematous, and laſtly ulcers are produced from deficient abſorption. See Sect. XXXIII. 3. 2. and Claſs II. 1. 4. 13. For an account of the ſcurvy of the lungs, ſee Sect. XXVII. 2.

M. M. Freſh animal and vegetable food. Infuſion of malt. New beer. Sugar. Wine. Steel. Bark. Sorbentia. Opium?

16. *Vibices.*

16. *Vibices.* Extravasations of blood become black from their being secluded from the air. The extravasation of blood in bruises, or in some fevers, or after death in some patients, especially in the parts which were exposed to pressure, is owing to the fine terminations of the veins having been mechanically compressed so as to prevent their absorbing the blood from the capillaries, or to their inactivity from disease. The blood when extravasated undergoes a chemical change before it is sufficiently fluid to be taken up by the lymphatic absorbents, and in that process changes its colour to green and then yellow.

17. *Petechiæ.* Purple spots. These attend fevers with great venous inirritability, and are probably formed by the inability of a single termination of a vein, whence the corresponding capillary becomes ruptured, and effuses the blood into the cellular membrane round the inert termination of the vein. This is generally esteemed a sign of the putrid state of the blood, or that state contrary to the inflammatory one. As it attends some inflammatory diseases which are attended with great inirritability, as in the confluent small pox. But it also attends the scurvy, where no fever exists, and it therefore simply announces the inactivity of the terminations of some veins; and is thence indeed a bad symptom in fevers, as a mark of approaching inactivity of the whole sanguiferous system, or death.

death. The blue colour of ſome children's arms or faces in very cold weather is owing in like manner to the torpor of the abſorbent terminations of the veins, whence the blood is accumulated in them, and ſometimes burſts them. See Hæmorrhagia venoſa, and Suppl. 1. 2. 7.

In ſome caſes of fever attended with petechiæ, Dr. Hall, of Colcheſter, directed the body to be waſhed with cold vinegar and water twice a day, with great advantage. The petechiæ became daily leſs numerous and leſs livid, the pulſe ſlower and ſtronger, with leſs delirium, and more ſleep. He has treated twenty caſes in this manner, and not loſt one. Medical Review, Vol. III. p. 8.

In theſe caſes not only the application of external cold ſeems to have been of ſervice, by preventing the unneceſſary expenditure of animal power; but as the ſtimulus of vinegar renders the lips pale, when applied externally, and in conſequence ſtimulates the terminations of the veins into greater action; it ſeems alſo to have contributed to remove the petechiæ.

18. *Aneuriſma.* Aneuriſm is probably owing to the want of due irritability of a part of the coat of an artery. As living muſcles are known to reſiſt diruption more than dead ones, according to the experiments (I think) of Dr. Langriſh, it follows that when a part of the coat of an artery ceaſes to contract by the ſtimulus of the

blood,

blood, that it will ſoon become diſtended by the force of it, till it widens into a ſack, and at laſt becomes ruptured.

M. M. Veneſection repeatedly in ſmall quantities. Reſt. Diluent, mild nutriment. Daily evacuation by a pill conſiſting of rhubarb eight grains, and ſoap four grains.

It is poſſible alſo, that an aneuriſm may be produced by the reſiſtance to the circulation, and the force of the heart being greater than the ſides of the arteries can counterbalance.

Mr. Gimbernat is ſaid to have cured ſome caſes of aneuriſm in the popliteal artery by compreſſing it by means of an adapted machine, conſiſting of a ſteel ring above and below the knee, which are joined by a plate, beneath which is placed a proper cuſhion, which can be preſſed on the diſtended part of the artery more or leſs by means of a ſcrew. The other method of cure is by a double ligature above the aneuriſm, as firſt practiſed by Mr. J. Hunter.

19. *Varix.* The varix of veins occurs frequently in the legs of women, poſſibly ſometimes from tight garters, and has for its proximate cauſe the inirritability of the coat of the vein; whence it becomes diſtended, till it burſts, by the power with which the blood is thrown into it by the abſorbent mouths, which take it up from the capillary arteries.

M. M. Tie the vena ſaphena below the joint of the knee, and the blood will then circulate by the internal veins; and that ſtopped in the veins beneath the ligature will be abſorbed.

The piles may be termed varixes, and may be deſtroyed by exciſion or ligature. See Hæmorrhois.

ORDO

ORDO II.

Decreased Irritation.

GENUS II.

Decreased Action of the Secerning System.

THESE are always attended with decrease of partial, or of general heat; for as the heat of animal bodies is the consequence of their various secretions, and is perpetually passing away into the ambient air, or other bodies in contact with them; when these secretions become diminished, or cease, the heat of the part or of the whole is soon diminished, or ceases along with them.

SPECIES.

1. *Frigus febrile.* Febrile coldness. There is reason to believe, that the beginning of many fever-fits originates in the quiescence of some part of the absorbent system, especially where they have been owing to external cold; but that, where the coldness of the body is not owing to a diminution of external heat, it arises from the inaction of some part of the secerning system. Hence some parts of the body are hot whilst other parts are cold; which I suppose gave occasion to error in Martyn's Ex-

periments; where he ſays, that the body is as hot in the cold paroxyſms of fevers as at other times.

After the ſenſorial power has been much diminiſhed by great preceding activity of the ſyſtem, as by long continued external heat, or violent exerciſe, a ſudden expoſure to much cold produces a torpor both greater in degree and over a greater portion of the ſyſtem, by ſubtracting their accuſtomed ſtimulus from parts already much deprived of their irritability. Dr. Franklin in a letter to M. Duberge, the French tranſlator of his works, mentions an inſtance of four young men, who bathed in a cold ſpring after a day's harveſt work; of whom two died on the ſpot, a third on the next morning, and the other ſurvived with difficulty. Hence it would appear, that thoſe, who have to travel in intenſely cold weather, will ſooner periſh, who have previouſly heated themſelves much with drams, than thoſe who have only the ſtimulus of natural food; of which I have heard one well atteſted inſtance. See Article VII. 2. 3. Claſs III. 2. 1. 17.

Frigus chronicum. Permanent coldneſs. Coldneſs of the extremities, without fever, with dry pale ſkin, is a ſymptom of general debility, owing to the decreaſed action of the arterial ſyſtem, and of the capillary veſſels; whence the perſpirable matter is ſecreted in leſs quantity, and in conſequence the ſkin is leſs warm. This coldneſs is obſervable at the extremities of the limbs, ears, and noſe, more than

than in any other parts: as a larger ſurface is here expoſed to the contact of the air, or clothes, and thence the heat is more haſtily carried away.

The pain, which accompanies the coldneſs of the ſkin, is owing to the deficient exertion of the ſubcutaneous veſſels, and probably to the accumulation of ſenſorial power in the extremities of their nerves. See Sect. XII. 5. 3. XIV. 6. XXXII. 3. and Claſs I. 2. 4. 1.

M. M. A bliſter. Incitantia, nutrientia, ſorbentia. Exerciſe. Clothes. Fire. Joy. Anger.

2. *Pallor fugitivus.* The fugitive paleneſs, which accompanies the coldneſs of the extremities, is owing to a leſs quantity of blood paſſing through the capillaries of the ſkin in a given time; where the abſorbent power of the veins is at the ſame time much diminiſhed, a part of the blood lingers at their junction with the capillary arteries, and a bluiſh tinge is mixed with the paleneſs; as is ſeen in the looſe ſkin under the eye-lids, and is always a mark of temporary debility. See Claſs II. 1. 4. 4. Where the paleneſs of the ſkin is owing to the deficiency of red globules in the blood, it is joined with a yellowiſh tinge; which is the colour of the ſerum, with which the blood then abounds, as in chloroſis, and in torpor or paralyſis of the liver, and is often miſtaken for a ſuperabundance of bile.

A permanent paleneſs of the ſkin is owing to the coaleſcence of the minute arteries, as in old age.

See Clafs I. 2. 2. 9. There is another fource of palenefs from the increafed abforption of the terminations of the veins, as when vinegar is applied to the lips. See Sect. XXVII. 1. and another from the retrograde motions of the capillaries and fine extremities of the arteries. See Clafs II. 3. 1. 1.

M. M. A blifter, nutrientia, incitantia, exercife, oxygene gas.

3. *Pus parcius.* Diminifhed pus. Drynefs of ulcers. In the cold fits of fever all the fecretions are diminifhed, whether natural or artificial, as their quantity depends on the actions of the glands or capillaries, which then fhare in the univerfal inaction of the fyftem. Hence the drynefs of iffues and blifters in great debility, and before the approach of death, is owing to deficient fecretion, and not to increafed abforption.

M. M. Opium, wine in very fmall quantities, Peruvian bark.

4. *Mucus parcior.* Diminifhed mucus. Drynefs of the mouth and noftrils. This alfo occurs in the cold fits of intermittents. In thefe cafes I have alfo found the tongue cold to the touch of the finger, and the breath to the back of one's hand, when oppofed to it, which are very inaufpicious fymptoms, and generally fatal. In fevers with inirritability it is generally efteemed a good fymptom, when the noftrils and tongue become moift after

having

having been previoufly dry; as it fhews an increaf-ed action of the mucous glands of thofe membranes, which were before torpid. And the contrary to this is the facies Hippocratica, or countenance fo well defcribed by Hippocrates, which is pale, cold, and fhrunk; all which are owing to the inactivity of the fecerning veffels, the palenefs from there being lefs red blood paffing through the capillaries, the coldnefs of the fkin from there being lefs fecretion of perfpirable matter, and the fhrunk appearance from there being lefs mucus fecreted into the cells of the cellular membrane. See Clafs IV. 2. 4. 11.

M. M. Blifters. Incitantia.

5. *Urina parcior pallida.* Paucity of pale urine, as in the cold fits of intermittents; it appears in fome nervous fevers throughout the whole difeafe, and feems to proceed from a palfy of the kidneys; which probably was the caufe of the fever, as the fever fometimes ceafes, when that fymptom is removed: hence the ftraw-coloured urine in this fever is fo far falutary, as it fhews the unimpaired action of the kidneys.

M. M. Balfams, effential oil, afparagus, rhubarb, a blifter. Cantharides internally.

6. *Torpor hepaticus.* Paucity of bile from a partial inaction of the liver; hence the bombycinous colour of the fkin, grey ftools, urine not yellow, indigeftion,

indigeſtion, debility, followed by tympany, dropſy, and death.

This paralyſis or inirritability of the liver often deſtroys thoſe who have been long habituated to much fermented liquor, and have ſuddenly omitted the uſe of it. It alſo deſtroys plumbers and houſe-painters, and in them ſeems a ſubſtitute for the colica ſaturnina. See Sect. XXX.

M. M. Aloe and calomel, then the bark, and chalybeates. Mercurial ointment rubbed on the region of the liver. Rhubarb, three or four grains, with opium half a grain to a grain twice a-day. Equitation, warm bath for half an hour every day.

7. *Torpor pancreatis.* Torpor of the pancreas. I ſaw what I conjectured to be a tumour of the pancreas with indigeſtion, and which terminated in the death of the patient. He had been for many years a great conſumer of tobacco, inſomuch that he chewed that noxious drug all the morning, and ſmoaked it all the afternoon. As the ſecretion from the pancreas reſembles ſaliva in its general appearance, and probably in its office of aſſiſting digeſtion, by preventing the fermentation of the aliment; as would appear by the experiments of Pringle and Macbride; there is reaſon to ſuſpect, that a ſympathy may exiſt between the ſalivary and pancreatic glands; and that the perpetual ſtimulus of the former by tobacco might in proceſs of time injure the latter. See Tobacco, Article III. 2. 2.

8. *Torpor*

8. *Torpor renis.* Inirritability or paralysis of the kidneys is probably frequently mistaken for gravel in them. Several, who have lived rather intemperately in respect to fermented or spirituous liquors, become suddenly seized about the age of sixty, or later, with a total stoppage of urine; though they have previously had no symptoms of gravel. In these cases there is no water in the bladder; as is known by the introduction of the catheter, of which those made of elastic gum are said to be preferable to metallic ones; or it may generally be known by the shape of the abdomen, either by the eye or hand. Bougies and catheters of elastic gum are sold at No. 37, Red Lion-street, Holborn, London.

M. M. Electric shocks, warm bath. Emetics. See calculus renis, Class I. 1. 3. 9. When no gravel has been previously observed, and the patient has been a wine-drinker rather than an ale-drinker, the case is generally owing to inirritability of the tubuli uriniferi, and is frequently fatal. See Class I. 2. 4. 20.

9. *Punctæ mucosæ vultûs.* Mucous spots on the face. These are owing to the inactivity of the excretory ducts of the mucous glands; the thinner part of this secretion exhales, and the remainder becomes inspissated, and lodges in the ducts, the extremity of which becomes black by exposure to the air.

M. M They.

M. M. They may be preſſed out by the finger-nails. Warm water. Ether frequently applied. Bliſter on the part?

10. *Maculæ cutis fulvæ.* Morphew or freckles. Tawny blotches on the ſkin of the face and arms of elderly people, and frequently on their legs after ſlight eryſipelas. The freckles on the face of younger people, who have red hair, ſeem to be a ſimilar production, and ſeem all to be cauſed by the coaleſcence of the minute arteries or capillaries of the part. In a ſcar after a wound the integument is only opake; but in theſe blotches, which are called morphew and freckles, the ſmall veſſels ſeem to have become inactive with ſome of the ſerum of the blood ſtagnating in them, from whence their colour. See Claſs III. 1. 2. 12.

M. M. Warm bathing. A bliſter on the part?

11. *Canities.* Grey hair. In the injection of the veſſels of animals for the purpoſes of anatomical preparations, the colour of the injected fluid will not paſs into many very minute veſſels; which nevertheleſs uncoloured water, or ſpirits, or quick-ſilver, will permeate. The ſame occurs in the filtration of ſome coloured fluids through paper, or very fine ſand, where the colouring matter is not perfectly diſſolved, but only diffuſed through the liquid. This has led ſome to imagine, that the cauſe of the whiteneſs of the hair in elderly people may

may arise from the diminution, or greater tenuity, of the glandular vessels, which secrete the mucus, which hardens into hair; and that the same difference of the tenuity of the secerning vessels may possibly make the difference of colour of the silk from different silk-worms, which is of all shades from yellow to white.

But as the secreted fluids are not the consequence of mechanical filtration, but of animal selection; we must look out for another cause, which must be found in the decreasing activity of the glands, as we advance in life; and which affects many of our other secretions as well as that of the mucus, which forms the hair. Hence grey hairs are produced on the faces of horses by whatever injures the glands at their roots, as by corrosive blisters; and frequently on the human subject by external injuries on the head; and sometimes by fevers. And as the grey colour of hair consists in its want of transparency, like water converted into snow; there is reason to suppose, that a defect of secreted moisture simply may be the cause of this kind of opacity, as explained in Cataracta, Class I. 2. 2. 13.

M. M. Whatever prevents the inirritability and insensibility of the system, that is, whatever prevents the approach of old age, will so far counteract the production of grey hairs, which is a symptom of it. For this purpose in people, who are not corpulent, and perhaps in those who are so, the warm

warm bath twice or thrice a week is particularly serviceable. See Sect. XXXIX. 5. 1. on the colours of animals, and Class I. 1. 2. 15.

As mechanical injury from a percussion, or a wound, or a caustic, is liable to occasion the hair of the part to become grey; so I suspect the compression of parts against each other of some animals in the womb is liable to render the hair of those parts of a lighter colour; as seems often to occur in black cats and dogs. A small terrier bitch now stands by me, which is black on all those parts, which were external, when she was wrapped up in the uterus, teres atque rotunda; and those parts white, which were most constantly pressed together; and those parts tawny, which were generally but less constantly pressed together. Thus the hair of the back from the forehead to the end of the tail is black, as well as that of the sides, and external parts of the legs, both before and behind.

As in the uterus the chin of the whelp is bent down, and lies in contact with the fore part of the neck and breast; the tail is applied close against the division of the thighs behind; the inside of the hinder thighs are pressed close to the sides of the belly, all these parts have white hairs.

The fore-legs in the uterus lie on each side of the face; so that the feet cover part of the temples, and compress the prominent part of the upper eye-brows, but are so placed as to defend the

eye-

eye-balls from preſſure; it is curious to obſerve, that the hair of the ſides of the face, and of the prominent upper eye-brows, are tawny, and of the inſide of the feet and legs, which covered them; for as this poſture admitted of more change in the latter weeks of geſtation, the colour of theſe parts is not ſo far removed from black, as of thoſe parts, where the contact or compreſſion was more uniform.

Where this uterine compreſſion of parts has not been ſo great as to render the hair white in other animals, it frequently happens, that the extremities of the body are white, as the feet, and noſe, and tips of the ears of dogs and cats and horſes, where the circulation is naturally weaker; whence it would ſeem, that the capillary glands, which form the hair, are impeded in the firſt inſtance by compreſſion, and in the laſt by the debility of the circulation in them. See Claſs I. 1. 2. 15.

This day, Auguſt 8th, 1794, I have ſeen a negro, who was born (as he reports) of black parents, both father and mother, at Kingſton in Jamaica, who has many large white blotches on the ſkin of his limbs and body; which I thought felt not ſo ſoft to the finger, as the black parts. He has a white divergent blaze from the ſummit of his noſe to the vertex of his head; the upper part of which, where it extends on the hairy ſcalp, has thick curled hair, like the other part of his head, but quite white. By theſe marks I ſuppoſed him

to

to be the ſame black, who is deſcribed, when only two years old, in the Tranſactions of the American Philoſophical Society, Vol. II. page 292, where a female one is likewiſe deſcribed with nearly ſimilar marks.

The joining of the frontal bones, and the bregma, having been later than that of the other ſutures of the cranium, probably gave cauſe to the whiteneſs of the hair on theſe parts by delaying or impeding its growth.

12. *Callus.* The callous ſkin on the hands and feet of laborious people is owing to the extreme veſſels coaleſcing from the perpetual preſſure they are expoſed to.

As we advance in life, the finer arteries loſe their power of action, and their ſides grow together; hence the paleneſs of the ſkins of elderly people, and the loſs of that bloom, which is owing to the numerous fine arteries, and the tranſparency of the ſkin, that encloſes them.

M. M. Warm bath. Paring the thick ſkin with a knife. Smoothing it with a pumice ſtone. Cover the part with oiled ſilk to prevent the evaporation of the perſpirable matter, and thus to keep it moiſt.

13. *Cataracta* is an opacity of the cryſtalline lens of the eye. It is a diſeaſe of light-coloured eyes, as the gutta ſerena is of dark ones. On cutting

ting off with sciffars the cornea of a calf's eye, and holding it in the palm of one's hand, so as to gain a proper light, the artery, which supplies nutriment to the crystalline humour, is easily and beautifully seen; as it rises from the centre of the optic nerve through the vitreous humour to the crystalline. It is this point, where the artery enters the eye through the cineritious part of the optic nerve, (which is in part near the middle of the nerve,) which is without sensibility to light; as is shewn by fixing three papers, each of them about half an inch in diameter, against a wall about a foot distant from each other, about the height of the eye; and then looking at the middle one, with one eye, and retreating till you lose sight of one of the external papers. Now as the animal grows older, the artery becomes less visible, and perhaps carries only a transparent fluid, and at length in some subjects I suppose ceases to be pervious; then it follows, that the crystalline lens, losing some fluid, and gaining none, becomes dry, and in consequence opake; for the same reason, that wet or oiled paper is more transparent than when it is dry, as explained in Class I. 1. 4. 1. The want of moisture in the cornea of old people, when the exhalation becomes greater than the supply, is the cause of its want of transparency; and which like the crystalline gains rather a milky opacity. The same analogy may be used to explain the whiteness of the hair of old

 people,

people, which loses its pellucidity along with its moisture. See Class I. 2. 2. 11.

M. M. Small electric shocks through the eye. A quarter of a grain of corrosive sublimate of mercury dissolved in brandy, or taken in a pill, twice a day for six weeks. Couching by depression, or by extraction. The former of these operations is much to be preferred to the latter, though the latter is at this time so fashionable, that a surgeon is almost compelled to use it, lest he should not be thought an expert operator. For depressing the cataract is attended with no pain, no danger, no confinement, and may be as readily repeated, if the crystalline should rise again to the centre of the eye. The extraction of the cataract is attended with considerable pain, with long confinement, generally with fever, always with inflammation, and frequently with irreparable injury to the iris, and consequent danger to the whole eye. Yet has this operation of extraction been trumpeted into universal fashion for no other reason but because it is difficult to perform, and therefore keeps the business in the hands of a few empirics, who receive larger rewards, regardless of the hazard, which is encountered by the flattered patient.

A friend of mine returned yesterday from London after an absence of many weeks; he had a cataract in a proper state for the operation, and in spite of my earnest exhortation to the contrary, was prevailed upon to have it extracted rather than depressed.

depreſſed. He was confined to his bed three weeks after the operation, and is now returned with the iris adhering on one ſide ſo as to make an oblong aperture; and which is nearly, if not totally, without contraction, and thus greatly impedes the little viſion, which he poſſeſſes. Whereas I ſaw ſome patients couched by depreſſion many years ago by a then celebrated empiric, Chevalier Taylor, who were not confined above a day or two, that the eye might gradually be accuſtomed to light, and who ſaw as well as by extraction, perhaps better, without either pain, or inflammation, or any hazard of loſing the eye.

As the inflammation of the iris is probably owing to forcing the cryſtalline through the aperture of it in the operation of extracting it, could it not be done more ſafely by making the opening behind the iris and ciliary proceſs into the vitreous humour? but the operation would ſtill be more painful, more dangerous, and not more uſeful than that by depreſſing it.

If extraction of the cryſtalline be uſed, Dr. Reimarus of Hamburgh adviſes to drop into the eye previous to the operation, ſome extract of belladonna diſſolved in water, which he has found to produce a temporary paralyſis of the retina, and thence a total inaction of the iris, ſo that it remains perfectly expanded, and is thence leſs liable to be injured by the operation, and the eye perhaps leſs

liable to inflammation. Might not this be of advantage in ſome ophthalmies?

14. *Innutritio oſſium.* Innutrition of the bones. Not only the blood effuſed in vibices and petechiæ, or from bruiſes, as well as the blood and new veſſels in inflamed parts, are reabſorbed by the increaſed action of the lymphatics; but the harder materials, which conſtitute the fangs of the firſt ſet of teeth, and the ends of exfoliating bones, and ſometimes the matter of chalk-ſtones in the gout, the coagulable lymph, which is depoſited on the lungs, or on the muſcles after inflammation of thoſe parts, and which frequently produces difficulty of breathing, and the pains of chronic rheumatiſm, and laſtly the earthy part of the living bones are diſſolved and abſorbed by the increaſed actions of this ſyſtem of veſſels. See Sect. XXXIII. 3. 1.

The earthy part of bones in this diſeaſe of the nutrition of them ſeems to ſuffer a ſolution, and reabſorption; while the ſecerning veſſels do not ſupply a ſufficient quantity of calcareous earth and phoſphoric acid, which conſtitute the ſubſtance of bones. As calcareous earth abounds every where, is the want of phoſphoric acid the remote cauſe? One cauſe of this malady is given in the Philoſophic Tranſactions, where the patient had been accuſtomed to drink large quantities of vinegar. Two caſes are deſcribed by Mr. Gouch. In one

caſe,

caſe, which I ſaw, a conſiderable quantity of calcareous earth, and afterwards of bone-aſhes, and of decoction of madder, and alſo of ſublimate of mercury, were given without effect. All the bones became ſoft, many of them broke, and the patient ſeemed to die from the want of being able to diſtend her cheſt owing to the ſoftneſs of the ribs.

M. M. Salt of urine, called ſal microcoſmicum, phoſphorated ſoda. Calcined hartſhorn. Bone-aſhes. Hard or petrifying water, as that of Matlock, or ſuch as is found in all limeſtone or marly countries. The calcareous earth in theſe waters might poſſibly be carried to the bones, as madder is known to colour them. Warm bath. Volatile or fixed alcali as a lotion on the ſpine, or eſſential oils.

The innutrition of the bones is often firſt to be perceived by the difficulty of breathing and palpitation of the heart on walking a little faſter than uſual, which I ſuppoſe is owing to the ſoftneſs of the ends of the ribs adjoining to the ſternum; on which account they do not perfectly diſtend the cheſt, when they are raiſed by the pectoral and intercoſtal muſcles with greater force than uſual. After this the ſpine becomes curved both by the ſoftneſs of its vertebræ, and for the purpoſe of making room for the diſturbed heart. See Species 16 of this Genus.

As theſe patients are pale and weak, there would

ſeem to be a deficiency of oxygene in their blood, and in conſequence a deficiency of phoſphoric acid; which is probably produced by oxygene in the act of reſpiration.

Mr. Bonhome, in the Chemical Annals, Auguſt, 1793, ſuppoſes the rickets to ariſe from the prevalence of vegetable or acetous acid, which is known to ſoften bones out of the body. Mr. Dettaen ſeems to have eſpouſed a ſimilar opinion, and both of them in conſequence give alcalies and teſtacea. If this theory was juſt, the ſoft bones of ſuch patients ſhould ſhew evident marks of ſuch acidity after death; which I believe has not been obſerved. Nor is it analogous to other animal facts, that nutritious fluids ſecreted by the fineſt veſſels of the body ſhould be ſo little animalized, as to retain acetous or vegetable acidity.

The ſucceſs attending the following caſe in ſo ſhort a time as a fortnight I aſcribed principally to the uſe of the warm bath; in which the patient continued for full half an hour every night, in the degree of heat, which was moſt grateful to her ſenſation, which might be I ſuppoſe about 94. Miſs ——, about ten years of age, and very tall and thin, has laboured under palpitation of her heart, and difficult breathing on the leaſt exerciſe, with occaſional violent dry cough, for a year or more, with dry lips, little appetite either for food or drink, and dry ſkin, with cold extremities. She has at times been occaſionally worſe, and been

relieved

relieved in ſome degree by the bark. She began to bend forwards, and to lift up her ſhoulders. The former ſeemed owing to a beginning curvature of the ſpine, the latter was probably cauſed to facilitate her difficult reſpiration.

M. M. She uſed the warm bath, as above related; which by its warmth might increaſe the irritability of the ſmalleſt ſeries of veſſels, and by ſupplying more moiſture to the blood might probably tend to carry further the materials, which form calcareous or bony particles, or to convey them in more dilute ſolution. She took twice a day twenty grains of extract of bark, twenty grains of ſoda phoſphorata, and ten grains of chalk, and ten of calcined hartſhorn mixed into a powder with ten drops of laudanum; with fleſh food both to dinner and ſupper; and port wine and water inſtead of the ſmall beer ſhe had been accuſtomed to; ſhe lay on a ſofa frequently in a day, and occaſionally uſed a neck-ſwing.

There is no ſituation, where the ſoftneſs of the bones and conſequent deformity of them is ſo frequently attended with calamitous conſequences, as when it affects the bones of the pelvis, ſo as to contract the form of it; whence many unfortunate women have loſt their infants, or periſhed themſelves. In this miſerable ſituation of the pregnant uterus, ſome have deſtroyed the child, others have undergone the Ceſarean operation, and have thence generally periſhed themſelves. But Dr. Denman

has ingeniously introduced a new practice, which has saved, in such cases, both the mother and child; which is by promoting a premature delivery between the seventh and eighth months, before the child has acquired its full growth, which has been attended with success. See Denman's Midwifery, and Medical Journal, Vol. III. No. 11.

In one instance, nature seems to have had a similar expedient, and perhaps to overcome a similar difficulty, in the premature birth of the progeny of the kanguroo; whose young are excluded from the uterus in a very early state of their growth, and received into an exterior bag; which is furnished with teats, to which they long adhere by their mouths, till they are ready for a second birth.

15. *Rachitis.* Rickets. The head is large, protuberant chiefly on the forepart. The smaller joints are swelled; the ribs depressed; the belly tumid, with other parts emaciated. This disease from the innutrition or softness of the bones arose about two centuries ago; seems to have been half a century in an increasing or spreading state; continued about half a century at its height, or greatest diffusion; and is now nearly vanished: which gives reason to hope, that the small-pox, measles, and venereal disease, which are all of modern production, and have already become milder, may in process of time vanish from the earth, and

perhaps be ſucceeded by new ones! See the preceding Species.

16. *Spinæ diſtortio.* Diſtortion of the ſpine is another diſeaſe originating from the innutrition or ſoftneſs of the bones. I once ſaw a child about ſix years old with palpitation of heart, and quickneſs of reſpiration, which began to have a curvature of the ſpine; I then doubted, whether the palpitation and quick reſpiration were the cauſe or conſequence of the curvature of the ſpine; ſuſpecting either that nature had bent the ſpine outwards to give room to the enlarged heart; or that the malformation of the cheſt had compreſſed and impeded the movements of the heart. But a few weeks ago on attending a young lady about ten years old, whoſe ſpine had lately begun to be diſtorted, with very great difficulty and quickneſs of reſpiration, and alarming palpitation of the heart, I convinced myſelf, that the palpitation and difficult reſpiration were the effect of the change of the cavity of the cheſt from the diſtortion of the ſpine; and that the whole was therefore a diſeaſe of the innutrition or ſoftneſs of the bones.

For on directing her to lie down much in the day, and to take the bark, the diſtortion became leſs, and the palpitation and quick reſpiration became leſs at the ſame time. After this obſervation a neck-ſwing was directed, and ſhe took the bark,

bark, madder, and bone-aſhes; and ſhe continues to amend both in her ſhape and health.

Delicate young ladies are very liable to become awry at many boarding-ſchools. This is occaſioned principally by their being obliged too long to preſerve an erect attitude, by ſitting on forms many hours together. To prevent this, the ſchool-ſeats ſhould have either backs, on which they may occaſionally reſt themſelves; or deſks before them, on which they may occaſionally lean. This is a thing of greater conſequence than may appear to thoſe, who have not attended to it.

When the leaſt tendency to become awry is obſerved, they ſhould be adviſed to lie down on a bed or ſofa for an hour in the middle of the day for many months; which generally prevents the increaſe of this deformity by taking off for a time the preſſure on the ſpine of the back, and it at the ſame time tends to make them grow taller. Young perſons, when nicely meaſured, are found to be half an inch higher in a morning than at night; as is well known to thoſe who inliſt very young men for ſoldiers. This is owing to the cartilages between the bones of the back becoming compreſſed by the weight of the head and ſhoulders on them during the day. It is the ſame preſſure which produces curvatures and diſtortions of the ſpine in growing children, where the bones are ſofter than uſual; and which may thus be relieved

 by

by an horizontal poſture for an hour in the middle of the day, or by being frequently allowed to lean on a chair, or to play on the ground on a carpet.

Young ladies ſhould alſo be directed, where two ſleep in a bed, to change every night, or every week, their ſides of the bed; which will prevent their tendency to ſleep always on the ſame ſide; which is not only liable to produce crookedneſs, but alſo to occaſion diſeaſes by the internal parts being ſo long kept in uniform contact as to grow together. For the ſame reaſon they ſhould not be allowed to ſit always on the ſame ſide of the fire or window, becauſe they will then be inclined too frequently to bend themſelves to one ſide.

Another great cauſe of injury to the ſhape of young ladies is from the preſſure of ſtays, or other tight bandages, which at the ſame time cauſe other diſeaſes by changing the form or ſituation of the internal parts. If a hard part of the ſtays, even a knot of the thread, with which they are ſewed together, is preſſed hard upon one ſide more than the other, the child bends from the ſide moſt painful, and thus occaſions a curvature of the ſpine. To counteract this effect, ſuch ſtays as have feweſt hard parts, and eſpecially ſuch as can be daily or weekly turned, are preferable to others.

Where frequent lying down on a ſofa in the day-time, and ſwinging frequently for a ſhort time by the hands or head, with looſe dreſs, do not relieve a beginning diſtortion of the back; re-

courſe

courſe may be had to a chair with ſtuffed moveable arms for the purpoſe of ſuſpending the weight of the body by cuſhions under the arm-pits, like reſting on crutches, or like the leading-ſtrings of infants. From the top of the back of the ſame chair a curved ſteel bar may alſo project to ſuſpend the body occaſionally, or in part by the head, like the ſwing above mentioned. The uſe of this chair is more efficacious in ſtraightening the ſpine, than ſimply lying down horizontally; as it not only takes off the preſſure of the head and ſhoulders from the ſpine, but at the ſame time the inferior parts of the body contribute to draw the ſpine ſtraight by their weight; or laſtly, recourſe may be had to a ſpinal machine firſt deſcribed in the Mémoires of the academy of ſurgery in Paris, Vol. III. p. 600, by M. Le Vacher, and ſince made by Mr. Jones, at No. 6, North-ſtreet, Tottenham-court-road, London, which ſuſpends the head, and places the weight of it on the hips. This machine is capable of improvement by joints in the bar at the back of it, to permit the body to bend forwards without diminiſhing the extenſion of the ſpine.

The objections of this machine of M. Vacher, which is made by Mr. Jones, are firſt, that it is worn in the day-time, and has a very unſightly appearance. Mr. Jones has endeavoured to remedy this, by taking away the curved bar over the head, and ſubſtituting in its place a forked bar, riſing up behind

hind each ear, with webs faſtened to it, which paſs under the chin and occiput. But this is not an improvement, but a deterioration of M. Vacher's machine, as it prevents the head from turning with facility to either ſide. Another objection is, that its being worn, when the muſcles of the back are in action, it is rather calculated to prevent the curvature of the ſpine from becoming greater, than to extend the ſpine, and diminiſh its curvature.

For this latter purpoſe I have made a ſteel bow, as deſcribed in the annexed plate, which receives the head longitudinally from the forehead to the occiput, having a fork furniſhed with a web to ſuſtain the chin, and another to ſuſtain the occiput. The ſummit of the bow is fixed by a ſwivel to the board going behind the head of the bed above the pillow. The bed is to be inclined from the head to the feet about twelve or ſixteen inches. Hence the patient would be conſtantly ſliding down during ſleep, unleſs ſupported by this bow, with webbed forks, covered alſo with fur, placed beneath the chin, and beneath the occiput. There are alſo proper webs lined with fur for the hands to take hold of occaſionally, and alſo to go under the arms. By theſe means I ſhould hope great advantage from gradually extending the ſpine during the inactivity of the muſcles of the back; and that it may be done without diſturbing the ſleep of the patient, and if this ſhould happen, the

bow

bow is made to open by a joint at the ſummit of it, ſo as to be inſtantly diſengaged from the neck by the hand of the wearer. This bow I have now uſed with advantage on one patient, and it may be had from Mr. Harriſon, whiteſmith, Bridge-gate, Derby.

It is alſo poſſible that a ſlight compreſs on the prominent part of a curved ſpine might be applied with advantage both in ſleep and in waking hours, if it could be nicely held on the part by a weak and very flexible ſpring, with a proper counter-preſſure on ſome diſtant part; but this would require more art than could be managed, except by thoſe who have very accurate mechanical ideas, and muſt differ with every kind of curvature. Thus if the prominent part of the curve of the ſpine be on one ſide, a ſtuffed cuſhion fixed to the centre of a long thin ſteel ſpring ſhould be applied on the prominence; one end of this long ſpring ſhould be bent by a ſtrap joined to a waiſtcoat on the oppoſite ſhoulder, and the other end of it by a ſtrap joined to drawers on the oppoſite hip; the degree of preſſure to be adjuſted by the tightneſs of theſe ſtraps. If the prominent part of a curved ſpine be exactly behind, the ends of the long ſpring ſhould extend from the loweſt bone of the neck to the os coccigis, and ſhould have its two ends attached to the top of a waiſtcoat, and to the waiſtband of a pair of drawers.

It will be from hence eaſily perceived, that all other

other methods of confining or directing the growth of young people should be used with great skill; such as back-boards, or bandages, or stocks for the feet; and that their application should not be continued too long at a time, lest worse consequences should ensue, than the deformity they were designed to remove. To this may be added, that the stiff erect attitude taught by some modern dancing masters does not contribute to the grace of person, but rather militates against it; as is well seen in one of the prints in Hogarth's Analysis of Beauty; and is exemplified by the easy grace of some of the ancient statues, as of the Venus de Medicis, and the Antinous, and in the works of some modern artists, as in a beautiful print of Hebe feeding an Eagle, painted by Hamilton, and engraved by Eginton, and many of the figures of Angelica Kauffman.

Where the bone of one of the vertebræ of the back has been swelled on both sides of it, so as to become protuberant, issues near the swelled part have been found of great service, as mentioned in Species 18 of this Genus. This has induced me to propose in curvatures of the spine, to put an issue on the outside of the curve, where it could be certainly ascertained, as the bones on the convex side of the curve must be enlarged; in one case I thought this of service, and recommend the further trial of it.

In the tendency to curvature of the spine, whatever

ever ſtrengthens the general conſtitution is of ſervice; as the uſe of the cold bath in the ſummer months. This however requires ſome reſtriction both in reſpect to the degree of coldneſs of the bath, the time of continuing in it, and the ſeaſon of the year. Common ſprings, which are of forty-eight degrees of heat, are too cold for tender conſtitutions, whether of children or adults, and frequently do them great and irreparable injury. The coldneſs of river-water in the ſummer months, which is about ſixty-eight degrees, or that of Matlock, which is about ſixty-eight, or of Buxton, which is eighty-two, are much to be preferred. The time of continuing in the bath ſhould be but a minute or two, or not ſo long as to occaſion a trembling of the limbs from cold. In reſpect to the ſeaſon of the year, delicate children ſhould certainly only bathe in the ſummer months; as the going frequently into the cold air in winter will anſwer all the purpoſes of the cold bath.

17. *Claudicatio coxaria.* Lameneſs of the hip. A nodding of the thigh-bone is ſaid to be produced in feeble children by the ſoftneſs of the neck or upper part of that bone beneath the cartilage; which is naturally bent, and in this diſeaſe bends more downwards, or nods, by the preſſure of the body; and thus renders one leg apparently ſhorter than the other. In other caſes the end of the bone is protruded out of its ſocket, by inflammation

tion or enlargement of the cartilages or ligaments of the joint, ſo that it reſts on ſome part of the edge of the acetabulum, which in time becomes filled up. When the legs are ſtraight, as in ſtanding erect, there is no verticillary motion in the knee-joint; all the motion then in turning out the toes further than nature deſigned, muſt be obtained by ſtraining in ſome degree this head of the thigh-bone, or the acetabulum, or cavity, in which it moves. This has induced me to believe, that this misfortune of the nodding of the head of the bone, or partial diſlocation of it, by which one leg becomes ſhorter than the other, is ſometimes occaſioned by making very young children ſtand in what are called ſtocks; that is with their heels together, and their toes quite out. Whence the ſocket of the thigh-bone becomes inflamed and painful, or the neck of the bone is bent downward and outwards.

In this caſe there is no expectation of recovering the ſtraightneſs of the end of the bone; but theſe patients are liable to another misfortune, that is, to acquire afterwards a diſtortion of the ſpine; for as one leg is ſhorter than the other, they ſink on that ſide, and in conſequence bend the upper part of their bodies, as their ſhoulders, the contrary way, to balance themſelves; and then again the neck is bent back again towards the lame ſide, to preſerve the head perpendicular; and thus the figure becomes quite diſtorted like the letter S,

owing originally to the deficiency of the length of one limb. The only way to prevent this curvature of the ſpine is for the child to wear a high-heeled ſhoe or patten on the lame foot, ſo as to ſupport that ſide on the ſame level with the other, and thus to prevent a greater deformity.

I have this day ſeen a young lady about twelve, who does not limp or waddle in walking; but nevertheleſs, when ſhe ſtands or ſits, ſhe ſinks down towards her right ſide, and turns out that toe more than the other. Hence, both as ſhe ſits and ſtands, ſhe bends her body to the right; whence her head would hang a little over her right ſhoulder; but to replace this perpendicularly, ſhe lifts up her left ſhoulder and contracts the muſcles on that ſide of the neck; which are therefore become thicker and ſtronger by their continued action; but there is not yet any very perceptible diſtortion of the ſpine.

As her right toe is turned outward rather more than natural, this ſhews the diſeaſe to be in the hip-joint; becauſe, when the limb is ſtretched out, the toe cannot turn horizontally in the leaſt without moving the end of the thigh-bone; although when the knee is bent, the toe can be turned through one third or half of a circle by the rotation of the tibia and fibula of the leg round each other. Hence if children are ſet in ſtocks with their heels touching each other as they ſit, and are then made to riſe up, till they ſtand erect, the ſocket or head of the thigh-bone becomes injured,

eſpecially

eſpecially in thoſe children, whoſe bones are ſoft; and a ſhortneſs of that limb ſucceeds either by the bending of the neck of the thigh-bone, or by its getting out of the acetabulum; and a conſequent riſing of one ſhoulder, and a curvature of the ſpine are produced from ſo diſtant a cauſe.

M. M. An elaſtic cuſhion made of curled hair ſhould be placed under the affected hip, whenever ſhe ſits; or ſhould be fitted to the part by means of drawers, ſo that ſhe cannot avoid ſitting on it. A neck-ſwing, and lying down in the day, ſhould be occaſionally uſed to prevent or remove any curvature of the ſpine. The reſt as in Species 13 and 15 of this genus.

18. *Spina protuberans.* Protuberant ſpine. One of the bones of the ſpine ſwells, and riſes above the reſt. This is not an uncommon diſeaſe, and belongs to the innutrition of the bones, as the bone muſt become ſoft before it ſwells; which ſoftneſs is owing to defect of the ſecretion of phoſphorated calcareous earth. The ſwelling of the bone compreſſes a part of the brain, called the ſpinal marrow, within the cavity of the back-bones; and in conſequence the lower limbs become paralytic, attended ſometimes with difficulty of emptying the bladder and rectum.

M. M. Iſſues put on each ſide of the prominent bone are of great effect, I ſuppoſe, by their ſtimulus; which excites into action more of the ſen-

ſorial powers of irritation and ſenſation, and thus gives greater activity to the vaſcular ſyſtem in their vicinity. The methods recommended in diſtortion of the ſpine are alſo to be attended to.

19. *Spina bifida.* Divided ſpine, called alſo Hydrorachitis, as well as the Hydrocephalus externus, is probably owing in part to a defect of oſſification of the ſpine and cranium; and the collection of fluid beneath them may originate from the general debility of the ſyſtem; which affects both the ſecerning, and abſorbent veſſels.

A curious circumſtance, which is affirmed to attend the ſpina bifida, is, that on compreſſing the tumor with the hand gently, the whole brain becomes affected, and the patient falls aſleep. I ſuppoſe the ſame muſt happen on compreſſing the hydrocephalus externus? See Sect. XVIII. 20.

20. *Oſſis palati defectus.* A defect of the bone of the palate, which frequently accompanies a diviſion of the upper lip, occurs before nativity; and is owing to the deficient action of the ſecerning ſyſtem, from whence the extremities are not completed. From a ſimilar cauſe I have ſeen the point of the tongue deficient, and one joint of the two leaſt fingers, and of the two leaſt toes, in the ſame infant; who was otherwiſe a fine girl. See Sect. XXXIX. 4. 4.

The operation for the hare-lip is deſcribed by

many

many ſurgical writers; but there is a perſon in London, who makes very ingenious artificial palates; which prevent that defect of ſpeech, which attends this malformation. This factitious palate conſiſts of a thin plate of ſilver of the ſhape and form of the roof of the mouth; from the front edge to the back edge of this ſilver plate four or five holes are made in a ſtraight line large enough for a needle to paſs through them; on the back of it is then ſewed a piece of ſponge; which when expanded with moiſture is nearly as large as the ſilver plate. This ſponge is ſlipped through the diviſion of the bone of the palate, ſo as to lie above it, while the ſilver plate covers the aperture beneath, and is ſuſpended by the expanding ſponge. This is removed every night and waſhed, and returned into its place in the morning; on this account it is convenient to have five or ſix of them, for the ſake of cleanlineſs. I have been more particular in deſcribing this invention, as I do not know the name, or place of reſidence, of the maker.

ORDO II.

Decreased Irritation.

GENUS III.

With decreased Action of the Absorbent System.

SOME decrease of heat attends these diseases, though in a less degree than those of the last genus, because the absorbent system of glands do not generate so much heat in their healthy state of action as the secerning system of glands, as explained in Class I. 1. 3.

SPECIES.

1. *Mucus faucium frigidus.* Cold mucus from the throat. Much mucus, of rather a saline taste, and less inspissated than usual, is evacuated from the fauces by hawking, owing to the deficient absorption of the thinner parts of it. This becomes a habit in some elderly people, who are continually spitting it out of their mouths; and has probably been brought on by taking snuff, or smoking tobacco; which by frequently stimulating the fauces have at length rendered the absorbent vessels less excitable by the natural stimulus of the saline part of the secretion, which ought to be reabsorbed, as soon as secreted.

M. M. A few grains of powder of bark frequently

quently put into the mouth, and gradually diffused over the fauces. A gargle of barley water.

2. *Sudor frigidus.* The cold dampneſs of the hands of ſome people is cauſed by the deficient abſorption of perſpirable matter; the clammy or viſcid feel of it is owing to the mucous part being left upon the ſkin. The coldneſs is produced both by the decreaſed action of the abſorbent ſyſtem, and by the evaporation of a greater quantity of the perſpirable matter into the air, which ought to have been abſorbed.

M. M. Waſh the hands in lime water, or with a ſmall quantity of volatile alcali in water.

3. *Catarrhus frigidus.* The thin diſcharge from the noſtrils in cold weather. The abſorbent veſſels become torpid by the diminution of external heat, ſooner than the ſecerning ones, which are longer kept warm by the circulating blood, from which they ſelect the fluid they ſecrete; whereas the abſorbent veſſels of the noſtrils drink up their fluids, namely the thin and ſaline part of the mucus, after it has been cooled by the atmoſphere. Hence the abſorbents ceaſing to act, and the ſecerning veſſels continuing ſome time longer to pour out the mucus, a copious thin diſcharge is produced, which trickles down the noſtrils in cold weather. This diſcharge is ſo acrid as to inflame the upper lip; which is owing to the neutral ſalts, with

which it abounds, not being reabſorbed; ſo the tears in the fiſtula lacrymalis inflame the cheek. See Claſs I. 1. 2. 7.

4. *Expectoratio frigida.* Cold expectoration. Where the pulmonary abſorption is deficient, an habitual cough is produced, and a frequent expectoration of thin ſaline mucus; as is often ſeen in old enfeebled people. Though the ſtimulus of the ſaline fluid, which attends all ſecretions, is not ſufficient to excite the languid abſorbent veſſels to imbibe it; yet this ſaline part, together with the increaſed quantity of the whole of the ſecreted mucus, ſtimulates the branches of the bronchia, ſo as to induce an almoſt inceſſant cough to diſcharge it from the lungs. A ſingle grain of opium, or any other ſtimulant drug, as a wine-poſſet with ſpirit of hartſhorn, will cure this cold cough, and the cold catarrh of the preceding article, like a charm, by ſtimulating the torpid mouths of the abſorbents into action. Which has given riſe to an indiſcriminate and frequently pernicious uſe of the warm regimen in coughs and catarrhs of the warm or inflammatory kind, to the great injury of many.

M. M. Half a grain of opium night and morning promotes the abſorption of the more fluid and ſaline parts, and in conſequence thickens the mucus, and abates its acrimony. Warm diluent drink, whine-whey, with volatile alcali.

5. *Urina*

5. *Urina uberior pallida.* On being expoſed naked to cold air, or ſprinkled with cold water, a quantity of pale urine is ſoon diſcharged; for the abſorbents of the bladder become torpid by their ſympathy with thoſe of the ſkin; which are rendered quieſcent by the diminution of external heat; but the kidneys continue to ſecrete the urine, and as no part of it is abſorbed, it becomes copious and pale. This happens from a ſimilar cauſe in cold fits of agues; and in leſs degree to many debilitated conſtitutions, whoſe extremities are generally cold and pale. The great quantity of limpid water in hyſteric caſes, and in diabetes, belongs to Claſs I. 3. 1. 10. I. 3. 2. 6.

M. M. Tincture of cantharides, opium, alum, ſorbentia. Flannel ſhirt in cold weather. Animal food. Beer. Wine. Friction. Exerciſe. Fire.

6. *Diarrhœa frigida.* Liquid ſtools are produced by expoſing the body naked to cold air, or ſprinkling it with cold water, for the ſame reaſon as the laſt article.

But this diſeaſe is ſometimes of a dangerous nature; the inteſtinal abſorption being ſo impaired, that the aliment is ſaid to come away undiminiſhed in quantity, and almoſt unchanged by the powers of digeſtion, and is then called lientery.

The mucus of the rectum ſometimes comes away like pellucid hartſhorn jelly, and liquefies by heat like that, towards the end of inirritative fevers, which

which is owing to the thinner part of the mucus not being abſorbed, and thus reſembles the catarrh of ſome old people.

M. M. Opium, campechy wood, armenian bole. Bliſter. Flannel ſhirt in cold weather. Clyſters with opium. Friction on the bowels morning and night. Equitation twice a day.

7. *Fluor albus frigidus.* Cold fluor albus. In weak conſtitutions, where this diſcharge is pellucid and thin, it muſt proceed from want of abſorption of the mucous membrane of the vagina, or uterus, and not from an increaſed ſecretion. This I ſuſpect to be the moſt frequent kind of fluor albus; the former one deſcribed at Claſs I. 1. 2. 11. attends menſtruation, or is a diſcharge inſtead of it, and thus reſembles the venereal orgaſm of female quadrupeds. The diſcharge in the cold kind being more ſaline, is liable to excoriate the part, and thus produce ſmarting in making water; in its great degree it is difficult to cure.

M. M. Increaſe the evacuation by ſtool and by perſpiration, by taking rhubarb every night, about ſix or ten grains with one grain of opium for ſome months. Flannel ſhirt in winter. Balſam copaiva. Gum kino, bitters, chalybeates, friction over the whole ſkin with flannel morning and night. Partial cold bath, by ſprinkling the loins and thighs, or ſponging them with cold water. Mucilage, as iſinglaſs boiled in milk; blanc mange,

mange, hartſhorn jelly, are recommended by ſome. Tincture of cantharides ſometimes ſeems of ſervice given from ten to twenty drops or more, three or four times a day. A large plaſter of burgundy pitch and armenian bole, ſo as to cover the loins and lower part of the belly, is ſaid to have ſometimes ſucceeded by increaſing abſorption by its compreſſion in the manner of a bandage. A ſolution of metallic ſalts, as white vitriol, ſixty grains to a pint; or an infuſion of oak-bark may be injected into the vagina. Cold bath.

8. *Gonorrhœa frigida.* Cold gleet. Where the gleet is thin and pellucid, it muſt ariſe from the want of abſorption of the membranes of the urethra, rather than from an increaſed ſecretion from them. This I ſuppoſe to be a more common diſeaſe than that mentioned at Claſs I. 1. 2. 10.

M. M. Metallic injections, partial cold bath, internal method as in the fluor albus above deſcribed. Balſam of copaiva. Tincture of cantharides. Introduce a few inches into the urethra a bougie ſmeared with balſam of copaiva. See Home on urethra, p. 105.

9. *Hepatis tumor.* The liver becomes enlarged from defect of the abſorption of mucus from its cells, as in anaſarca, eſpecially in feeble children; at the ſame time leſs bile is ſecreted from the torpid circulation in the vena portæ. And as the abſorbents,

ſorbents, which reſume the thinner parts of the bile from the gall-bladder and hepatic ducts, are alſo torpid or quieſcent, the bile is more dilute, as well as in leſs quantity. From the obſtruction of the paſſage of the blood through the compreſſed vena porta theſe patients have tumid bellies, and pale bloated countenances; their paleneſs is probably owing to the deficiency of the quantity of red globules in the blood in conſequence of the inert ſtate of the bile.

Theſe ſymptoms in children are generally attended with worms, the dilute bile and the weak digeſtion not deſtroying them. In ſheep I have ſeen fluke-worms in the gall-ducts themſelves, among the dilute bile; which gall-ducts they eat through, and then produce ulcers, and the hectic fever, called the rot. See Claſs I. 1. 4. 10. and Article IV. 2. 6.

M. M. After a calomel purge, crude iron filings are ſpecific in this diſeaſe in children, and the worms are deſtroyed by the returning acrimony and quantity of the bile. A bliſter on the region of the liver. Sorbentia, as worm-ſeed, ſantonicum. Columbo. Bark.

The nitrous acid has been ſtrongly recommended by Mr. Scot in tumours of the liver, which frequently occur in the eaſt, where this gentleman reſides; he gives two drachms of ſtrong nitrous acid mixed with two pounds of water, to be drunk daily at intervals. See Syphilis, Claſs II. 1. 5. 2.

10. *Chloroſis*

10. *Chlorosis.* When the defect of the due action of both the absorbent and secerning vessels of the liver affects women, and is attended with obstruction of the catamenia, it is called chlorosis; and is cured by the exhibition of steel, which restores by its specific stimulus the absorbent power of the liver; and the menstruation, which was obstructed in consequence of debility, recurs.

Indigestion, owing to torpor of the stomach, and a consequent too great acidity of its contents, attend this disease; whence a desire of eating chalk, or marl. Sometimes a great quantity of pale urine is discharged in a morning, which is owing to the inaction of the absorbents, which are distributed on the neck of the bladder, during sleep. The swelling of the ankles, which frequently attends chlorosis, is another effect of deficient action of the absorbent system; and the pale countenance is occasioned by the deficient quantity of red globules of blood, caused by the deficient quantity or acrimony of the bile, and consequent weakness of the circulation. The pulse is so quick in some cases of chlorosis, that, when attended with an accidental cough, it may be mistaken for pulmonary consumption. This quick pulse is owing to the debility of the heart from the want of stimulus occasioned by the deficiency of the quantity, and acrimony of the blood.

M. M. Steel. Bitters. Constant moderate exercise. Friction with flannel all over the body and limbs

limbs night and morning. Rhubarb five grains, opium half a grain, every night. Flesh diet, with small beer, or wine and water. The disease continues some months, but at length subsides by the treatment above described. A bath of about eighty degrees, as Buxton Bath, is of service; a colder bath may do great injury.

11. *Hydrocele.* Dropsy of the vagina testis. Dropsies have been divided into the encysted and the diffused, meaning those of the cellular membrane, the cells of which communicate with each other like a sponge, and those of any other cavity of the body. The collections of mucous fluids in the various cells and cavities of the body arise from the torpor of the absorbent vessels of those parts. It is probable, that in dropsies attended with great thirst the cutaneous absorbents become paralytic first; and then from the great thirst, which is thus occasioned by the want of atmospheric moisture, the absorption of the fat ensues; as in fevers attended with great thirst, the fat is quickly taken up. See Obesitas I. 2. 3. 16. Some have believed, that the cellular and adipose membranes are different ones; as no fat is ever deposited in the eyelids or scrotum, both which places are very liable to be distended with the mucilaginous fluid of the anasarca, and with air in Emphysema. Sometimes a gradual absorption of the accumulated fluid takes place, and the thinner parts being taken up, there

remains a more viscid fluid, or almost a solid in the part, as in some swelled legs, which cannot easily be indented by the pressure of the finger, and are called scorbutic. Sometimes the paralysis of the absorbents is completely removed, and the whole is again taken up into the circulation.

The Hydrocele is known by a tumor of the scrotum, which is without pain, gradually produced, with fluctuation; and a degree of pellucidity, when a candle is held behind it; it is the most simple incysted dropsy, as it is not in general complicated with other diseases, as ascites with scirrhous liver, and hydrocephalus internus, with general debility. The cure of this disease is effected by different ways; it consists in discharging the water by an external aperture; and by so far inflaming the cyst and testicle, that they afterwards grow together, and thus prevent in future any secretion or effusion of mucus; the disease is thus cured, not by the revivescence of the absorbent power of the lymphatics, but by the prevention of secretion by the adhesion of the vagina to the testis. This I believe is performed with less pain, and is more certainly manageable by tapping, or discharging the fluid by means of a trocar, and after the evacution of it to fill the cyst with a mixture of wine and water for a few minutes till the necessary degree of stimulus is produced, and then to withdraw it; as recommended by Mr. Earle. See

also

alſo Medical Commentaries by Dr. Duncan for 1793.

12. *Hydrocephalus internus*, or dropſy of the ventricles of the brain, is fatal to many children, and ſome adults. When this diſeaſe is leſs in quantity, it probably produces a fever, termed a nervous fever, and which is ſometimes called a worm fever, according to the opinion of Dr. Gilchriſt, in the Scots Medical Eſſays. This fever is attended with great inirritability, as appears from the dilated pupils of the eyes, in which it correſponds with the dropſy of the brain. And the latter diſeaſe has its paroxyſms of quick impulſe, and in that reſpect correſponds with other fevers with inirritability.

The hydrocephalus internus is diſtinguiſhed from apoplexy by its being attended with fever, and from nervous fever by the paroxyſms being very irregular, with perfect intermiſſions many times in a day. In nervous fever the pain of the head generally affects the middle of the forehead; in hydrocephalus internus it is generally on one ſide of the head. One of the earlieſt criterions is the patient being uneaſy on raiſing his head from the pillow, and wiſhing to lie down again immediately; which I ſuppoſe is owing to the preſſure of the water on the larger trunks of the blood-veſſels entering the cavity being more intolerable than on the ſmaller ones; for if the larger trunks are compreſſed, it

muſt inconvenience the branches alſo; but if ſome of the ſmall branches are compreſſed only, the trunks are not ſo immediately incommoded.

Bliſters on the head, and mercurial ointment externally, with calomel internally, are principally recommended in this fatal diſeaſe. When the patient cannot bear to be raiſed up in bed without great uneaſineſs, it is a bad ſymptom. So I believe is deafneſs, which is commonly miſtaken for ſtupor. See Claſs I. 2. 5. 6. And when the dilatation of the pupil of either eye, or the ſquinting is very apparent, or the pupils of both eyes much dilated, it is generally fatal. As by ſtimulating one branch of lymphatics into inverted motion, another branch is liable to abſorb its fluid more haſtily; ſuppoſe ſtrong errhines, as common tobacco ſnuff to children, or one grain of turpeth mineral, (hydrargyrus vitriolatus), mixed with ten or fifteen grains of ſugar, were gradually blown up the noſtrils? See Claſs I. 3. 2. 1. I have tried common ſnuff upon two children in this diſeaſe; one could not be made to ſneeze, and the other was too near death to receive advantage. When the mercurial preparations have produced ſalivation, I believe they may have been of ſervice, but I doubt their good effect otherwiſe. In one child I tried the tincture of digitalis; but it was given with too timid a hand, and too late in the diſeaſe, to determine its effects. See Sect. XXIX. 5. 9.

As all the above remedies generally fail of ſuc-

cess, I think frequent, almost hourly, shocks of electricity from very small charges might be passed through the head in all directions with probability of good event; as by Volta's rods of zinc and silver described in Class I. 2. 5. 5. A solution of hydrargyrus muriatus, corrosive sublimate of mercury in rectified spirit of wine, three grains to an ounce, is said to produce instantaneous and violent salivation; as described in Class II. 1. 5. 1. on Gonorrhœa. Could a small quantity of this violent stimulus be used according to the age of the child with probable good effect? Could the trephine be used with safety or advantage where the affected side can be distinguished? See Strabismus, Class I. 2. 5. 4. When one eye is affected, does the disease exist in the ventricle of that side?

"Master L———, aged 9 years, became suddenly ill in the night about a week before I saw him. On the day before the attack, he had taken opening medicines, and had bathed afterwards. He had complained of violently acute pain in his head, shrieked frequently, ground his teeth hard, could not bear to have his head raised from the pillow, and was torpid or deaf. His tongue was white, pulse 110 in the evening and full. As yet the pupil of the eye was irritable, and he had no strabismus. He had been bled with leeches about the head, and blistered. I directed mercurial inunction, and calomel from 3 to 6 grains to be taken at first every six, and afterwards every three

 hours.

hours. This plan produced no ſenſible effect, and the patient died on the 18th day after the ſeizure. He had convulſion-fits two days preceding his death, and the well-known ſymptoms of hydrocephalus internus all made their appearance. From what I had ſeen and read of this diſeaſe, I believed it to belong to inflammations, and at an earlier period I ſhould be tempted to bleed as largely as for pneumonia. The fluid found after death in the ventricles of the brain I impute to debility of the abſorbents induced by inflammation. My reaſons are briefly theſe: 1. The acuteneſs of the pain. 2. The ſtate of the pulſe. In the above caſe for the firſt 9 or 10 days it did not exceed 110, and was full and ſtrong. 3. To find out whether any febrile alternations took place, Maſter L.'s feet were frequently felt, and they were found at times cold, and at other times of a dry heat. I have many times ſeen this diſeaſe, but the patients were too young, or too far advanced, to inform me, whether they had chillneſs ſucceeded by heat at its onſet. 4. The diſorders to which the young are more peculiarly liable afford a preſumption, that hydrocephalus internus is an inflammatory diſeaſe; and this is confirmed by the regularity of the period, within which it finiſhes its courſe. And laſtly, does it not happen more frequently than is ſuſpected from external injury?

"I have juſt now been well informed, that Dr. Ruſh has lately cured five out of ſix patients by

copious bleedings. I relate here the reaſons for an opinion without pretending to a diſcovery. Something like this doctrine may be found in certain modern publications, but it is delivered in that vague and diffuſe ſtyle, which I truſt your example will baniſh from medical literature."

To this idea of Dr. Beddoes may be added, that the hydrocele generally ſucceeds an injury, and conſequent inflammation of the bag, which contains it. And that other dropſies, which principally attend inebriates, are conſequent to too great action of the mucous membranes by the ſtimulus of beer, wine, and ſpirits. And laſtly, that as theſe caſes of hydrocephalus end ſo fatally, a new mode of treating them is much to be deſired, and deſerves to be ſeriouſly attended to.

13. *Aſcites.* The dropſy of the cavity of the abdomen is known by a tenſe ſwelling of the belly; which does not ſound on being ſtruck like the tympany; and in which a fluctation can be readily perceived by applying one hand expanded on one ſide, and ſtriking the tumour on the other.

Effuſions of water into large cavities, as into that of the abdomen or thorax, or into the ventricles of the brain or pericardium, are more difficult to be re-abſorbed, than the effuſion of fluids into the cellular membrane; becauſe one part of this extenſive ſponge-like ſyſtem of cells, which connects all the ſolid parts of the body, may have its

its power of abſorption impaired, at the ſame time that ſome other part of it may ſtill retain that power, or perhaps poſſeſs it in an increaſed degree; and as all theſe cells communicate with each other, the fluid, which abounds in one part of it, can be transferred to another, and thus be re-abſorbed into the circulation.

In the aſcites, cream of tartar has ſometimes been attended with ſucceſs; a dram or two drams are given every hour in a morning till it operates, and this is to be repeated for ſeveral days; but the operation of tapping is generally applied to at laſt. Dr. Sims, in the Memoirs of the Medical Society of London, Vol. III. has lately propoſed, what he believes to be a more ſucceſsful method of performing this operation, by making a puncture with a lancet in the ſcar of the navel, and leaving it to diſcharge itſelf gradually for ſeveral days, without introducing a canula, which he thinks injurious, both on account of the too ſudden emiſſion of the fluid, and the danger of wounding or ſtimulating the viſcera. This operation I have twice known performed with leſs inconvenience, and I believe with more benefit to the patient, than the common method.

After the patient has been tapped, ſome have tried injections into the cavity of the abdomen, but hitherto I believe with ill event. Nor are experiments of this kind very promiſing of ſucceſs. Firſt, becauſe the patients are generally

much debilitated, moſt frequently by ſpirituous potation, and have generally a diſeaſe of the liver, or of other viſcera. And ſecondly, becauſe the quantity of inflammation, neceſſary to prevent future ſecretion of mucus into the cavity of the abdomen, by uniting the peritoneum with the inteſtines or meſentery, as happens in the cure of the hydrocele, would I ſuppoſe generally deſtroy the patient, either immediately, or by the conſequence of ſuch adheſions.

This however is not the caſe in reſpect to the dropſy of the ovarium, or in the hydrocele.

14. *Hydrops thoracis.* The dropſy of the cheſt commences with loſs of fleſh, cold extremities, pale countenance, high coloured urine in ſmall quantity, and general debility, like many other dropſies. The patient next complains of numbneſs in the arms, eſpecially when elevated, with pain and difficulty of ſwallowing, and an abſolute impoſſibility of lying down for a few minutes, or with ſudden ſtarting from ſleep, with great difficulty of breathing and palpitation of his heart. It is often confounded with anaſarca pulmonum, which ſee.

The numbneſs of the arms is probably owing more frequently to the increaſed action of the pectoral muſcles in reſpiration, whence they are leſs at liberty to perform other offices, than to the connexion of nerves mentioned in Sect. XXIX. 5. 2.

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The difficulty of ſwallowing is owing to the compreſſion of the œſophagus by the lymph in the cheſt; and the impoſſibility of breathing in a horizontal poſture originates from this, that if any parts of the lungs muſt be rendered uſeleſs, the inability of the extremities of them muſt be leſs inconvenient to reſpiration; ſince if the upper parts or larger trunks of the air-veſſels ſhould be rendered uſeleſs by the compreſſion of the accumulated lymph, the air could not gain admitance to the other parts, and the animal muſt immediately periſh.

If the pericardium is the principal ſeat of the diſeaſe, the pulſe is quick and irregular. If only the cavity of the thorax is hydropic, the pulſe is not quick nor irregular.

If one ſide is more affected than the other, the patient leans moſt that way, and has more numbneſs in that arm.

The hydrops thoracis is diſtinguiſhed from the anaſarca pulmonum, as the patient in the former cannot lie down half a minute; in the latter the difficulty of breathing, which occaſions him to riſe up, comes on more gradually; as the tranſition of the lymph in the cellular membrane from one part to another of it is ſlower, than that of the effuſed lymph in the cavity of the cheſt.

The hydrops thoracis is often complicated with fits of convulſive breathing; and then it produces a diſeaſe for the time very ſimilar to the common

periodic aſthma, which is perhaps owing to a temporary anaſarca of the lungs; or to an impaired venous abſorption in them. Theſe exacerbations of difficult breathing are attended with cold extremities, cold breath, cold tongue, upright poſture with the mouth open, and a deſire of cold air, and a quick, weak, intermittent pulſe, and contracted hands.

Theſe exacerbations recur ſometimes every two or three hours, and are relieved by opium, a grain every hour for two or three doſes, with ether about a dram in cold water; and ſeem to be a convulſion of the muſcles of reſpiration induced by the pain of the dyſpnœa. As in Claſs III. 1. 1. 9.

M. M. A grain of dried ſquill, and a quarter of a grain of blue vitriol every hour for ſix or eight hours, unleſs it vomit or purge. A grain of opium. Bliſters. Calomel three grains every third day, with infuſion of ſenna. Bark. Chalybeates. Puncture in the ſide.

Can the fluctuation in the cheſt be heard by applying the ear to the ſide, as Hippocrates aſſerts? Can it be felt by the hand or by the patient before the diſeaſe is too great to admit of cure by the paracenteſis? Does this dropſy of the cheſt often come on after peripneumony? Is it ever cured by making the patient ſick by tincture of digitalis? Could it be cured, if on one ſide only, by the operation of puncture between the ribs, and afterwards by inflaming the cavity by the admiſſion of air for a time,

a time, like the cure of the hydrocele; the pleura afterwards adhering wholly to that lobe of the lungs, so as to prevent any future effusion of mucus?

I suspect the anasarca of the lungs, as well as the hydrops thoracis, to be most frequently diseases of those membranes only, and not to depend on the general paralysis of the absorbent system; and that they are then not accompanied with swelled legs, till the patient becomes universally weak; and that they have for their cause a rheumatic or gouty peripneumony or pleurisy; that is, that the lungs or pleura have been inflamed from their sympathy with some other viscus, and have deposited much coagulable lymph on the surface of their inflamed membranes, which could not readily become absorbed, and has thus caused the dropsy of the cavity of the chest, like the coagulable lymph or chalky matter left after the gout and rheumatism in other parts; or that the cellular membrane of the lungs becomes filled with a fluid from the present inaction of their absorbent vessels, which had previously been excited too violently; and that the anasarca of the lungs is thus produced like the anasarca which, frequently in weak constitutions, exists after the gout in the feet and knees, and after rheumatic inflammations of the joints. See Peripneumonia, Class II. 1. 2. 4. whence it appears, why the hydrops thoracis and anasarca

pulmonum

pulmonum ſo generally occur in gouty conſtitutions.

15. *Hydrops ovarii.* Dropſy of the ovary is another encyſted dropſy, which ſeldom admits of cure. It is diſtinguiſhed from aſcites by the tumour and pain, eſpecially at the beginning, occupying one ſide, and the fluctuation being leſs diſtinctly perceptible. When it happens to young ſubjects it is leſs liable to be miſtaken for aſcites. It affects women of all ages, either married or virgins; and is produced by cold, fear, hunger, bad food, and other debilitating cauſes. I ſaw an elegant young lady, who was ſhortly to have been married to a ſenſible man, with great proſpect of happineſs; who, on being overturned in a chaiſe in the night, aud obliged to walk two or three miles in wet, cold, and darkneſs, became much indiſpoſed, and gradually afflicted with a ſwelling and pain on one ſide of the abdomen; which terminated in a dropſy of the ovary, and deſtroyed her in two or three years. Another young woman I recollect ſeeing, who was about ſeventeen, and being of the very inferior claſs of people, ſeemed to have been much weakened by the hardſhip of a cold floor, and little or no bed, with bad food; and who to theſe evils had to bear the unceaſing obloquy of her neighbours, and the perſecution of pariſh officers.

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The following is abstracted from a letter of my friend Mr. Power, surgeon, at Bosworth in Leicestershire, on examining the body of an elderly lady who died of this disease, March 29, 1793. "On opening the abdomen I found a large cyst attached to the left ovarium by an elastic neck as thick as the little finger, and so callous as not to admit of being separated by scissars without considerable difficulty. The substance of the cyst had an appearance much resembling the gravid uterus near the full period of gestation, and was as thick. It had no attachment to the peritoneum, or any of the viscera, except by the hard callous neck I have mentioned; so that the blood must with difficulty have been circulated through it for some time. Its texture was extremely tender, being easily perforated with the finger, was of a livid red colour, and evidently in a sphacelated state. It contained about two gallons of a fluid of the colour of port wine, without any greater tenacity. It has fallen to my lot to have opened two other patients, whose deaths were occasioned by encysted dropsy of the ovarium. In one of these the ovarium was much enlarged with eight or ten cysts on its surface, but there was no adhesion formed by any of the cysts to any other part; nor had the ovarium formed any adhesion with the peritoneum, though in a very diseased state. In the other the disease was more simple, being only one cyst, without any attachment but to the ovarium.

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"As the ovarium is a part not neceſſary to life, and dropſies of this kind are ſo generally fatal in the end, I think I ſhall be induced, notwithſtanding the hazard attending wounds, which penetrate the cavity of the abdomen, to propoſe the extirpation of the diſeaſed part in the firſt caſe, which occurs to me, in which I can with preciſion ſay, that the ovarium is the ſeat of the diſeaſe, and the patient in other reſpects tolerably healthy; as the cavity of the abdomen is often opened in other caſes without bad conſequences."

An argument, which might further countenance the operation thus propoſed by Mr. Power, might be taken from the diſeaſe frequently affecting young perſons; from its being generally in theſe ſubjects local and primary; and not like the aſcites, produced or accompanied with other diſeaſed viſcera; and laſtly, as it is performed in adult quadrupeds, as old ſows, with ſafety, though by awkward operators.

16. *Anaſarca pulmonum.* The dropſy of the cellular membrane of the lungs is uſually connected with that of the other parts of the ſyſtem. As the cells of the whole cellular membrane communicate with each other, the mucilaginous fluid, which remains in any part of it for want of due abſorption, ſinks down to the moſt depending cells; hence the legs ſwell, though the cauſe of the diſeaſe, the deficiency of abſorption, may be in other parts of the

ſyſtem.

ſyſtem. The lungs however are an exception to this, ſince they are ſuſpended in the cavity of the thorax, and have in conſequence a depending part of their own.

The anaſarca of the lungs is known by the difficulty of reſpiration accompanied with ſwelled legs, and with a very irregular pulſe. This laſt circumſtance has generally been aſcribed to a dropſy at the ſame time exiſting in the pericardium, but is more probably owing to the difficult paſſage of the blood through the lungs; becauſe I found on diſſection, in one inſtance, that the moſt irregular pulſe, which I ever attended to, was owing to very extenſive adheſion of the lungs; inſomuch that one lobe intirely adhered to the pleura; and ſecondly, becauſe this kind of dropſy of the lungs is ſo certainly removed for a time along with the anaſarca of the limbs by the uſe of digitalis.

This medicine, as well as emetic tartar, or ſquill, when given ſo as to produce ſickneſs, or nauſea, or perhaps even without producing either in any perceptible degree, by affecting the lymphatics of the ſtomach, ſo as either to invert their motion, or to weaken them, increaſes by reverſe ſympathy the action, and conſequent abſorbent power of theſe lymphatics, which open into the cellular membrane. But as theſe medicines ſeldom ſucceed in producing an abſorption of thoſe fluids, which ſtagnate in the larger cavities of the body, as in the abdomen, or cheſt, and do generally ſucceed

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in this difficulty of breathing with irregular pulſe above deſcribed, I conclude that it is not owing to an effuſion of lymph into the pericardium, but ſimply to an anaſarca of the lungs.

M. M. Digitalis. See Art. V. 2. 1. 2. and IV. 2. 3. 7. Tobacco. Squill. Emetic tartar (antimonium tartarizatum). Then Sorbentia. Chalybeates. Opium half a grain twice a day. Raiſin wine and water, or other wine and water, is preferred to the ſpirit and water, which theſe patients have generally been accuſtomed to.

I have ſeen two caſes, which were eſteemed to be hydrothorax, but which I believed to be anaſarca pulmonum, though they were attended with irregular pulſe; for I do not underſtand, why an irregularity of pulſe ſhould be occaſioned by water in the pericardium any more than by water in the lungs, or by any other obſtruction to the circulation. See Claſs IV. 2. 1. 18. Pulſus intermittens, and Palpitatio cordis.

In both theſe caſes the patients could not ſleep above one minute at a time; which I aſcribed to the debility of the action of the heart compared with the reſiſtance to the circulation, and that ſome voluntary exertion became neceſſary to carry on the circulation, which does not exiſt in ſleep. See Claſs I. 2. 1. 3. Somnus interruptus.

Theſe two caſes of patients about ſixty years of age are here mentioned from a curious circumſtance, that both the patients became in ſome de-

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gree insane after being relieved by the tincture of digitalis taken to the quantity of thirty drops three or four times a day for two or three days; and remained in a slight degree of insanity for some months, and then as this increase of voluntary exertion ceased, they again became afflicted with the anasarca pulmonum, and swelling of the legs, and this repeatedly for two or three years. I have before seen a common anasarca repeatedly cured by insanity for a year or two, and two fevers I have seen attended with great debility cured by the access of insanity, which was called delirium by the attendants; and I lately witnessed the present cure of what was believed to be consumption by the access of insanity. All which were probably effected by the increased energy of some parts of the system owing to the addition of volition to the sensorial powers of irritation or association.

The usual cause of anasarca is from a diseased liver, and hence it most frequently attends those, who have drunk much fermented or spirituous liquors; but I suspect that there is another cause of anasarca, which originates from the brain; and which is more certainly fatal than that, which originates from a diseased liver. These patients, where the anasarca originates from, or commences in, the brain, have not other symptoms of diseased liver; have less difficulty of breathing at the beginning; and hold themselves more upright in their chair, and in walking. In this kind of dropsy I suspect

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the digitalis has lefs or no effect; as it particularly increafes the abforption from the lungs.

17. *Obefitas.* Corpulency may be called an anafarca or dropfy of fat, fince it muft be owing to an analogous caufe; that is, to the deficient abforption of fat compared to the quantity fecreted into the cells which contain it. See Clafs II. 1. 1. 4.

The method of getting free from too much fat without any injury to the conftitution, confifts, firft, in putting on a proper bandage on the belly, fo that it can be tightened or relaxed with eafe, as a tightifh under waiftcoat, with a double row of buttons. This is to comprefs the bowels and increafe their abforption; and it thus removes one principal caufe of corpulency, which is the loofenefs of the fkin. Secondly, he fhould omit one entire meal, as fupper; by this long abftinence from food the abforbent fyftem will act on the mucus and fat with greater energy. Thirdly, he fhould drink as little as he can with eafe to his fenfations; fince, if the abforbents of the ftomach and bowels fupply the blood with much, or perhaps too much, aqueous fluid, the abforbents of the cellular membrane will act with lefs energy. Fourthly, he fhould ufe much falt or falted meat, which will increafe the perfpiration and make him thirfty; and if he bears this thirft, the abforption of his fat will be greatly increafed, as appears in fevers and dropfies with thirft;

thirſt; this I believe to be more efficacious than ſoap. Fifthly, he may uſe aerated alcaline water for his drink, which may be ſuppoſed to render the fat more fluid,—or he may take ſoap in large quantities, which will be decompoſed in the ſtomach. Sixthly, ſhort reſt, and conſtant exerciſe.

Vinegar has been ſaid to reduce corpulency, but as it contains much vinous ſpirit, it may injure the general health without previouſly inducing leanneſs. Perhaps cryſtals of tartar might ſucceed better uſed daily in water at meals.

The moſt efficacious method of reducing the quantity of the fat I ſuſpect may be by the uſe of the tincture of digitalis in ſmall quantity, as twenty or thirty drops twice a day, as directed in Article IV. 2. 3. 7. As the effect of this medicine, when given in greater quantity, as in forty drops twice or thrice a day in hydrothorax or general anaſarca, evidently conſiſts in weakening the natural actions of the ſtomach, perhaps by previouſly ſtimulating that viſcus too violently; in conſequence the heart and arteries act leſs powerfully from their ſympathy with the ſtomach; and the capillary veſſels, and abſorbents, act more powerfully in conſequence of the leſs expenditure of ſenſorial power by the inert action of the heart and arteries; and will conſequently abſorb the accumulated fat from the cellular membrane, as explained in Supplement I. 12. 10.

18. *Splenis tumor.* Swellings of the ſpleen, or in its vicinity, are frequently perceived by the hand in intermittents, which are called Ague-cakes, and ſeem owing to a deficiency of abſorption in the affected part.

Mr. Y——, a young man about twenty-five years of age, who lived intemperately, was ſeized with an obſtinate intermittent, which had become a continued fever with ſtrong pulſe, attended with daily remiſſion. A large hard tumour on the left ſide, on the region of the ſpleen, but extending much more downward, was ſo diſtinctly perceptible, that one ſeemed to get one's fingers under the edge of it, much like the feel of the brawn or ſhield on a boar's ſhoulder. He was repeatedly bled, and purged with calomel, had an emetic, and a bliſter on the part, without diminiſhing the tumour; after ſome time he took the Peruvian bark, and ſlight doſes of chalybeates, and thus became free from the fever, and went to Bath for ſeveral weeks, but the tumour remained. This tumour I examined every four or five years for above thirty years. His countenance was pale, and towards the end of his life he ſuffered much from ulcers on his legs, and died about ſixty, of general debility; like many others, who live intemperately in reſpect to the ingurgitation of fermented or ſpirituous liquors.

As this tumour commenced in the cold fit of an intermittent fever, and was not attended with pain,

and

and continued ſo long without endangering his life, there is reaſon to believe it was ſimply occaſioned by deficient abſorption, and not by more energetic action of the veſſels which conſtitute the ſpleen. See Claſs II. 1. 2. 13.

M. M. Veneſection. Emetic, cathartic with calomel; then ſorbentia, chalybeates, Peruvian bark.

19. *Genu tumor albus.* White ſwelling of the knee, is owing to deficient abſorption of the lymphatics of the membranes including the joint, or capſular ligaments, and ſometimes perhaps of the gland which ſecretes the ſynovia; and the ends of the bones are probably affected in conſequence.

I ſaw an inſtance, where a cauſtic had been applied by an empyric on a large white ſwelling of the knee, and was told, that a fluid had been diſcharged from the joint, which became anchyloſed, and healed without loſs of the limb.

M. M. Repeated bliſters on the part early in the diſeaſe are ſaid to cure it by promoting abſorption; ſaturnine ſolutions externally are recommended. Bark, animal charcoal, as burnt ſponge, opium in ſmall doſes. Friction with the hand. Four or ſix leeches applied on or beneath the knee alternately with the bliſters, and a cupping glaſs put over the wounds made by the leeches are much recommended.

20. *Bronchocele.* Swelled throat. An enlargement of the thyroid glands, ſaid to be frequent in

mountainous countries, where river water is drunk, which has its ſource from diſſolving ſnows. This idea is a very ancient one, but perhaps not on that account to be the more depended upon, as authors copy one another. Tumidum guttur quis miratur in Alpibus, ſeems to have been a proverb in the time of Juvenal. The inferior people of Derby are much ſubject to this diſeaſe, but whether more ſo than other populous towns, I can not determine; certain it is, that they chiefly drink the water of the Derwent, which ariſes in a mountainous country, and is very frequently blackened as it paſſes through the moraſſes near its ſource; and is generally of a darker colour, and attended with a whiter foam, than the Trent, into which it falls; the greater quantity and whiteneſs of its froth I ſuppoſe may be owing to the viſcidity communicated to it by the colouring matter. The lower parts of the town of Derby might be eaſily ſupplied with ſpring water from St. Alkmond's well; or the whole of it from the abundant ſprings near Bowbridge: the water from which might be conveyed to the town in hollow bricks, or clay-pipes, at no very great expence, and might be received into frequent reſervoirs with pumps to them; or laid into the houſes.

M. M. Twenty grains of burnt ſponge with ten of nitre made with mucilage into lozenges, and permitted to diſſolve ſlowly under the tongue twice a day, is aſſerted to cure in a few months; perhaps

other

other animal charcoal, as candle-ſnuffs, might do the ſame.

I have directed in the early ſtate of this diſeaſe a mixture of common ſalt and water to be held in the mouth, particularly under the tongue, for a few minutes, four or ſix times a day for many weeks, which has ſometimes ſucceeded, the ſalt and water is then ſpit out again, or in part ſwallowed. Externally vinegar of ſquills has been applied, or a mercurial plaſter, or fomentations of acetated ammoniac; or ether. Some empyrics have applied cauſtics on the bronchocele, and ſometimes, I have been told, with ſucceſs; which ſhould certainly be uſed where there is danger of ſuffocation from the bulk of it. One caſe I ſaw, and one I was well informed of, where the bronchocele was cured by burnt ſponge, and a hectic fever ſupervened with colliquative ſweats; but I do not know the final event of either of them.

De Haen affirms the cure of bronchocele to be effected by flowers of zinc, calcined egg-ſhells, and ſcarlet-cloth burnt together in a cloſe crucible, which was tried with ſucceſs, as he aſſured me, by a late lamented phyſician, my friend, Dr. Small of Birmingham; who to the cultivation of modern ſciences added the integrity of ancient manners; who in clearneſs of head, and benevolence of heart, had few equals, perhaps no ſuperiors.

21. *Scrofula.* King's evil is known by tumours

mours of the lymphatic glands, particularly of the neck. The upper lip, and diviſion of the noſtrils are ſwelled, with a florid countenance, a ſmooth ſkin, and a tumid abdomen. Cullen. The abſorbed fluids in their courſe to the veins in the ſcrofula are arreſted in the lymphatic or conglobate glands; which ſwell, and after a great length of time, inflame and ſuppurate. Materials of a peculiar kind, as the variolous and venereal matter, when abſorbed in a wound, produce this torpor, and conſequent inflammation of thoſe lymphatic glands, where they firſt arrive, as in the axilla and groin. There is reaſon to ſuſpect, that the tonſils frequently become inflamed, and ſuppurate from the matter abſorbed from carious teeth; and I ſaw a young lady, who had both the axillary glands ſwelled, and which ſuppurated; which was believed to have been cauſed by her wearing a pair of new green gloves for one day, when ſhe had perſpired much, and was much exhauſted and fatigued by walking; the gloves were probably dyed in a ſolution of verditer.

Theſe indolent tumours of the lymphatic glands, which conſtitute the ſcrofula, originate from the inirritability of thoſe glands; which therefore ſooner fall into torpor after having been ſtimulated too violently by ſome poiſonous material; as the muſcles of enfeebled people ſooner become fatigued, and ceaſe to act, when exerted, than thoſe of ſtronger ones. On the ſame account theſe ſcrofulous glands

are

are much longer in acquiring increaſe of motion, after having been ſtimulated into inactivity, and either remain years in a ſtate of indolence, or ſuppurate with difficulty, and ſometimes only partially.

The difference between ſcrofulous tumours, and thoſe before deſcribed, conſiſts in this; that in thoſe either glands of different kinds were diſeaſed, or the mouths only of the lymphatic glands were become torpid; whereas in ſcrofula the conglobate glands themſelves become tumid, and generally ſuppurate after a great length of time, when they acquire new ſenſibility. See Sect. XXXIX. 4. 5.

Theſe indolent tumours may be brought to ſuppurate ſometimes by paſſing electric ſhocks through them every day for two or three weeks, as I have witneſſed. It is probable, that the alternate application of ſnow or iced water to them, till they become painfully cold, and then of warm flannel or warm water, frequently repeated, might reſtore their irritability by accumulation of ſenſorial power; and thence either facilitate their diſperſion, or occaſion them to ſuppurate. See Claſs II. 1. 4. 13.

This diſeaſe is very frequent amongſt the children of the poor in large towns, who are in general ill fed, ill lodged, and ill clothed; and who are further weakened by eating much ſalt with their ſcanty meal of inſipid vegetable food, which is ſel-

dom of better quality than water gruel, with a little coarſe bread in it. See diarrhœa of infants, Claſs I. 1. 2. 5. Scrofulous ulcers are difficult to heal, which is owing to the deficiency of abſorption on their pale and flabby ſurfaces, and to the general inirritability of the ſyſtem. See Claſs I. 1. 3. 13.

M. M. Plentiful diet of fleſh-meat and vegetables with ſmall beer. Opium, from a quarter of a grain to half a grain twice a day. Sorbentia. Tincture of digitalis, thirty drops twice a day. Externally ſea-bathing, or bathing in ſalt and water, one pound to three gallons, made warm. The application of Peruvian bark in fine powder, ſeven parts, and white lead (ceruſſa), in fine powder one part, mixed together and applied on the ulcers in dry powder, by means of lint and a bandage, to be renewed every day. Or very fine powder of calamy alone, lapis calaminaris. If powder of manganeſe? See Claſs II. 1. 4. 13.

22. *Scirrhus.* After the abſorbent veins of a gland ceaſe to perform their office, if the ſecerning arteries of it continue to act ſome time longer, the fluids are puſhed forwards, and ſtagnate in the receptacles or capillary veſſels of the gland; and the thinner part of them only being reſumed by the abſorbent ſyſtem of the gland, a hard tumour gradually ſucceeds; which continues like a lifeleſs maſs, till from ſome accidental violence it gains ſenſibility,

ſenſibility, and produces cancer, or ſuppurates. Of this kind are the ſcirrhous glands of the breaſts, of the lungs, of the meſentery, and the ſcrofulous tumours about the neck and the bronchocele.

Another ſeat of ſcirrhus is in the membranous parts of the ſyſtem, as of the rectum inteſtinum, the urethra, the gula or throat; and of this kind is the veruca or wart, and the clavus pedum, or corns on the toes. A wen ſometimes ariſes on the back of the neck, and ſometimes between the ſhoulders; and by diſtending the tendinous faſcia produces great and perpetual pain.

M. M. Mercurial ointment. Cover the part with oiled ſilk. Extirpation. Electric ſhocks through the tumour. An iſſue into the ſubſtance of the wen. Opium. Ether externally.

23. *Scirrhus recti inteſtini.* Scirrhus of the rectum. A ſcirrhus frequently affects a canal, and by contracting its diameter becomes a painful and deplorable diſeaſe. The canals thus obſtructed are the rectum, the urethra, the throat, the gall-ducts, and probably the excretory ducts of the lymphatics, and of other glands.

The ſcirrhus of the rectum is known by the patient having pain in the part, and being only able to part with liquid feces, and by the introduction of the finger; the ſwelled part of the inteſtine is ſometimes protruded downwards, and

hangs

hangs like a valve, ſmooth and hard to the touch, with an aperture in the centre of it. See a paper on this ſubject by J. Sherwin. Memoirs of a London Medical Society, Vol. II. p. 9.

M. M. To take but little ſolid food. Aperient medicines. Introduce a candle ſmeared with mercurial ointment. Sponge-tent. Clyſters with forty drops of laudanum. Introduce a leathern canula, or gut, and then either a wooden maundril, or blow it up with air, ſo as to diſtend the contracted part as much as the patient can bear. Or ſpread mercurial plaſter on thick ſoft leather, and roll it up with the plaſter outwards to any thickneſs and length, which can be eaſily introduced and worn; or two or three ſuch pieces may be introduced after each other. The ſame may be uſed to compreſs bleeding internal piles. See Claſs I. 2. 1. 6. Rub mercurial ointment on the ſphincter ani every night for a fortnight.

May not this diſeaſe be cured by lunar cauſtic applied on the end of a peſſary or bougie, in the ſame manner as uſed by J. Hunter, and ſince by Mr. E. Home, in ſtrictures of the urethra; when, on introducing the finger, a kind of membranous valve can be diſtinguiſhed rather than an extenſive ſcirrhus or induration. See the next article.

24. *Scirrhus urethræ.* Scirrhus of the urethra. The paſſage becomes contracted by the thickened membrane,

membrane, and the urine is forced through with great difficulty, and is thence liable to diſtend the canal behind the ſtricture; till at length an aperture is made, and the urine forces it's way into the cellular membrane, making large ſinuſes. This ſituation ſometimes continues many months, or even years, and ſo much matter is evacuated after making water, or at the ſame time, by the action of the muſcles in the vicinity of the ſinuſes, that it has been miſtaken for an increaſed ſecretion from the bladder, and has been erroneouſly termed a catarrh of the bladder. See a paper by Dr. R. W. Darwin in the Medical Memoirs.

M. M. Diſtend the part gradually by catgut bougies, which by their compreſſion will at the ſame time diminiſh the thickneſs of the membrane, or by bougies of elaſtic gum, or of horn boiled ſoft. The patient ſhould gain the habit of making water ſlowly, which is a matter of the utmoſt conſequence, as it prevents the diſtention, and conſequent rupture, of that part of the urethra, which is between the ſtricture and the neck of the bladder.

When there occurs an external ulcer in the perinæum, and the urine is in part diſcharged that way, the diſeaſe cannot be miſtaken. Otherwiſe, from the quantity of matter, it is generally ſuppoſed to come from the bladder, or proſtate gland; and the urine, which eſcapes from the ruptured urethra, mines its way amongſt the muſ-

cles

cles and membranes, and the patient dies tabid, owing to the want of an external orifice to difcharge the matter. See Clafs II. 1. 4. 11.

Mr. Home has publifhed a very ingenious and ufeful work, entitled, a Differtation on Strictures of the Urethra, in which he has recorded many cafes fuccefsfully treated by lunar cauftic, inferted in the end of a bougie, and applied to the contracted part of the urethra, fo as to deftroy the ftricture.

From the form of the cavity of the urethra, taken by injecting wax into it, there appears naturally to exift a kind of valve immediately behind the bulb of the urethra, which, when the penis is erect, fhuts up the orifice, and prevents the regurgitation of the femen into the bladder during the action of the accelerator mufcles in the act of its expulfion; and this natural conftriction or valve appears generally to be the firft feat of ftricture.

Above the bulb, about two or three inches from the orifice of the glans, the cavity of the urethra appears alfo leffened; and in fome cafes the orifice of the very extremity appears lefs than other parts of the canal; thefe parts are therefore more contracted during the emiffio feminis, and add to its velocity at its exit; and are thence more liable to fcirrhofity or ftricture. And by fome obfervations, Mr. Home has fhewn, that a fympathy exifts between the ftrictures of thefe parts; and that the more

more forward ſtrictures are frequently produced in conſequence of that behind the bulb; and finds it neceſſary to deſtroy them all, by frequent application of the cauſtic.

By the uſe of which, (which was firſt propoſed by Wiſeman, firſt applied by John Hunter, and ſo greatly improved by Mr. Home) the lives of great numbers are rendered happy, who otherwiſe gradually periſh by a moſt painful and hopeleſs malady.

25. *Scirrhus œſophagi.* A ſcirrhus of the throat contracts the paſſage ſo as to render the ſwallowing of ſolids impracticable, and of liquids difficult. It affects patients of all ages, but is probably moſt frequently produced by ſwallowing hard angular ſubſtances, when people have loſt their teeth; by which this membrane is over-diſtended, or torn, or otherwiſe injured.

M. M. Put milk into a bladder tied to a canula or catheter; introduce it paſt the ſtricture, and preſs it into the ſtomach. Diſtend the ſtricture gradually by a ſponge-tent faſtened to the end of whalebone, or by a plug of wax, or a ſpermaceti candle, about two inches long; which might be introduced, and left there with a ſtring only fixed to it to hang out of the mouth, to keep it in its place, and to retract it by occaſionally; for which purpoſe the ſtring muſt be put through a catheter or hollow probang, when it is to be retracted. Or

laſtly,

laſtly, introduce a gut fixed to a pipe; and then diſtend it by blowing wind into it. The ſwallowing a bullet with a ſtring put through it, to retract it on the exhibition of an emetic, has alſo been propoſed. Externally, mercurial ointment has been much recommended. Poultice. Oiled ſilk. Clyſters of broth. Warm bath of broth. Transfuſion of blood into a vein three or four ounces a day? See Claſs III. 1. 1. 15.

I directed a young woman, about twenty-two years of age, to be fed with new milk put into a bladder, which was tied to a catheter, and introduced beyond the ſtricture in her throat; after a few days, her ſpirits ſunk, and ſhe refuſed to uſe it further, and died. Above thirty years ago, I propoſed to an old gentleman, whoſe throat was entirely impervious, to ſupply him with a few ounces of blood daily from an aſs, or from the human animal, who is ſtill more patient and tractable, in the following manner: To fix a ſilver pipe about an inch long to each extremity of a chicken's gut, the part between the two ſilver ends to be meaſured by filling it with warm water; to put one end into the vein of a perſon hired for that purpoſe, ſo as to receive the blood returning from the extremity; and when the gut was quite full, and the blood running through the other ſilver end, to introduce that end into the vein of the patient upwards towards the heart, ſo as to admit no air along with the blood. And laſtly, to ſupport the

gut and ſilver ends on a water-plate, filled with water of ninety-eight degrees of heat, and to meaſure how many ounces of blood was introduced by paſſing the finger, ſo as to compreſs the gut, from the receiving-pipe to the delivering-pipe; and thence to determine how many gut-fulls were given from the healthy perſon to the patient. Mr. —— conſidered a day on this propoſal, and then another day, and at length anſwered, that "he now found himſelf near the houſe of death; and that, if he could return, he was now too old to have much enjoyment of life; and therefore he wiſhed rather to proceed to the end of that journey, which he was now ſo near, and which he muſt at all events ſoon go, than return for ſo ſhort a time." He lived but a few days afterwards, and ſeemed quite careleſs and eaſy about the matter. See Suppl. I. 14. 4.

A difficulty of ſwallowing food, and a rejection ſoon after, of the whole or a part of it, may be often owing probably to a ſort of valve made by a part of the membrane which lines the œſophagus; and may thus reſemble ſtrictures of the urethra; which laſt are ſo frequently cured by the nice application of lunar cauſtic, as deſcribed by Mr. Everard Home, in his Treatiſe on Strictures of the Urethra. Suppoſe a thick bougie, made of linen ſpread with adheſive plaſter, and rolled up, was armed at the end with a bit of lunar cauſtic, with which the ſtricture of the œſophagus could be

touched

touched repeatedly, till an unarmed bougie could be paſſed readily into the ſtomach? Could ſuch a valve be burſt, or inverted, by pouring a pound or two of crude mercury into the œſophagus?

26. *Lacteorum inirritabilitas.* Inirritability of the lacteals is deſcribed in Sect. XXVIII. under the name of paralyſis of the lacteals; but as the word paralyſis has generally been applied to the diſobedience of the muſcles to the power of volition, the name is here changed to inirritability of the lacteals, as more characteriſtic of the diſeaſe.

27. *Lymphaticorum inirritabilitas.* The inirritability of the cellular and cutaneous lymphatics is deſcribed in Sect. XXIX. 5. 1. and in Claſs I. 2. 3. 16. The inirritability of the cutaneous lymphatics generally accompanies anaſarca, and is the cauſe of the great thirſt in that malady. At the ſame time, the cellular lymphatics act with greater energy, owing to the greater derivation of ſenſorial power to them, in conſequence of the leſs expenditure of it by the cutaneous ones; and hence they abſorb the fat, and mucus, and alſo the thinner parts of the urine. Whence the great emaciation of the body, the muddy ſediment, and the ſmall quantity of water in this kind of dropſy.

ORDO

ORDO II.

Decreaſed Irritation.

GENUS IV.

With decreaſed Actions of other Cavities and Membranes.

MANY of the diſeaſes of this genus are attended with pain, and with cold extremities, both which ceaſe on the exhibition of wine or opium; which ſhews, that they originate from deficient action of the affected organ. Theſe pains are called nervous or ſpaſmodic, are not attended with fever, but are frequently ſucceeded by convulſions and madneſs; both which belong to the claſs of volition. Some of them return at periods, and when theſe can be aſcertained, a much leſs quantity of opium will prevent them, than is neceſſary to cure them, when they are begun; as the veſſels are then torpid and inirritable from the want of ſenſorial power, till by their inaction it becomes again accumulated.

Our organs of ſenſe, properly ſo called, are not liable to pain from the abſence of their appropriated ſtimuli, as from darkneſs or ſilence; but the other ſenſes, which may be more properly called appetites, as thoſe by which we perceive heat, hunger, thirſt, luſt, want of freſh air, are affected with pain from the defect or abſence of their accuſtomed ſtimuli, as well as with pleaſure

by the poffeffion of them; it is probable that fome of our glands, the fenfe or appetite of which requires or receives fomething from the circulating blood, as the pancreas, liver, teftes, proftate gland, may be affected with aching or pain, when they cannot acquire their appropriated fluid.

Wherever this defect of ftimulus occurs, a torpor or inaction of the organ enfues, as in the capillaries of the fkin, when expofed to cold; and in the glands, which fecrete the gaftric juice, when we are hungry. This torpor however, and concomitant pain, which are at firft owing to defect of ftimulus, are afterwards induced by other affociations or catenations, and conftitute the beginning of ague-fits.

It muft be further obferved, that in the difeafes of pain without fever, the pain is frequently not felt in the part where the caufe of the difeafe refides; but is induced by fympathy with a diftant part, the irritability or fenfibility of which is greater or lefs than its own. Thus a ftone at the neck of the bladder, if its ftimulus is not very great, only induces the pain of ftrangury at the glans penis. If its ftimulus be greater, it then induces pain at the neck of the bladder. The concretions of bile, which are protruded into the neck of the gall-bladder, when the difeafe is not very great, produce pain at the other extremity of the bile-duct, which enters the duodenum immediately under the pit of the ftomach; but, when the difeafe is great from the largenefs of the bile-ftone, the pain is felt

felt in the region of the liver at the neck of the gall-bladder.

It appears from hence, that the pains enumerated in this genus are consequences of the inactivity of the organ; and, as they do not occasion other diseases, should be classed according to their proximate cause, which is, defective irritation; there are nevertheless other pains from defect of stimulus, which produce convulsions, and belong to Class III. 1. 1.; and others, which produce pains of some distant part by association, and belong to Class IV. 2. 2.

SPECIES.

1. *Sitis.* Thirst. The senses of thirst and of hunger seem to have this connexion, that the former is situated at the upper end, and the latter at the lower end of the same canal. One about the pharynx, where the œsophagus opens into the mouth, and the other about the cardia ventriculi, where it opens into the stomach. The extremities of other canals have been shewn to possess correspondent sensibilities, or irritabilities, as the two ends of the urethra, and of the common gall-duct. See IV. 2. 2. 2. and 4.

The membrane of the upper end of the gullet becomes torpid, and consequently painful, when there is a deficiency of aqueous fluid in the general system; it then wants its proper stimulus. In the same manner a want of the stimulus of more solid materials at the other end of the canal, which

terminates in the ſtomach, produces hunger; as mentioned in Sect. XIV. 8. The proximate cauſes of both of them therefore conſiſt in deficient irritation, when they are conſidered as pains; becauſe theſe pains are in conſequence of the inactivity of the organ, according to the fifth law of animal cauſation. Sect. IV. 5. But when they are conſidered as deſires, namely, of liquid or ſolid aliment, their proximate cauſe conſiſts in the pain of them, according to the ſixth law of animal cauſation. So the proximate cauſe of the pain of coldneſs is the inactivity of the organ, and perhaps the conſequent accumulation of ſenſorial power in it; but the pain itſelf, or the conſequent volition, is the proximate cauſe of the ſhuddering and gnaſhing the teeth in cold fits of intermittent fevers. See Claſs I. 2. 2. 1.

Thirſt may be divided into two varieties, alluding to the remote cauſe of each, and may be termed ſitis calida, or warm thirſt, and ſitis frigida, or cold thirſt. The remote cauſe of the former ariſes from the diſſipation of the aqueous parts of our fluids by the increaſed ſecretion of perſpirable matter, or other evacuations. And hence it occurs in hot fits of fever, and after taking much wine, opium, ſpice, ſalt, or other drugs of the Art. incitantia or ſecernentia. The thirſt, which occurs about three hours after eating a couple of red herrings, to a perſon unaccuſtomed to ſalted meat, is of this kind; the increaſed action of the cutaneous veſſels diſſipates ſo much of our fluids

by insensible perspiration, as to require above two quarts of water to restore the fluidity of the blood, and to wash the salt out of the system. See Art. III. 2. 1.

M. M. Cold water. Vegetable acids. Warm bath.

The remote cause of sitis frigida, or cold thirst, is owing to the inaction of the cutaneous, pulmonary, urinary, and cellular absorbents; whence the blood is deprived of the great supply of moisture, which it ought to receive from the atmosphere, and from the cells of the cellular membrane, and from other cysts; this cause of thirst exists in dropsies, and in the cold fits of intermittents. The desire of fluids, like that of solids, is liable to acquire periods, and may therefore readily become diseased by indulgence in liquids grateful to the palate.

Of diseased thirst, the most common is either owing to defect of the action of the numerous absorbent vessels on the neck of the bladder, in which the patient makes much paleish water; or to the defective absorption of the skin and lungs, in which the patient makes but little water, and that high-coloured, and with sediment. In both the tongue and lips are liable to become very dry. The former in its greatest degree attends diabetes, and the latter anasarca.

M. M. Warm water, warm wine, warm bath. Opium. Cold bath. Iced water. Lemonade. Cyder.

2. *Esuries.* Hunger has been fancifully ascribed to the sides of the stomach rubbing against each other, and to the increased acidity of the gastric juice corroding the coats of it. If either of these were the cause of hunger, inflammation must occur, when they had continued some time; but, on the contrary, coldness not heat is attendant on hunger; which evinces, that like thirst it is owing to the inactivity of the membrane, which is the seat of it; while the abundant nerves about the cardia ventriculi, and the pain of hunger being felt in that part, gives great reason to conclude, that it is there situated.

The sense of hunger as well as of thirst, is liable to acquire habits in respect to the times of its returning painfulness, as well as in respect to the quantity required to satiate its appetency, and hence may become diseased by indulgence, as well as by want of its appropriate stimulus. Those who have been accustomed to distend their stomach by large quantities of animal and vegetable food, and much potation, find a want of distention, when the stomach is empty, which occasions faintness, and is mistaken for hunger, but which does not appear to be the same sensation. I was well informed, that a woman near Lichfield, who eat much animal and vegetable food for a wager, affirmed, that since distending her stomach so much, she had never felt herself satisfied with food; and had in general taken twice as much at a meal, as she had been accustomed to, before she eat so much for a wager.

3. *Nausea sicca.* Dry nausea. Consists in a quiescence or torpor of the mucous or salivary glands, and precedes their inverted motions, described in nausea humida, Class I. 3. 2. 3. In the same manner as sickness of the stomach is a quiescence of that organ preceding the action of vomiting, as explained in Sect. XXXV. 1. 3. This is sometimes induced by disagreeable drugs held in the mouth, at other times by disgustful ideas, and at other times by the association of these actions with those of the stomach; and thus according to its different proximate causes may belong to this, or to the second, or to the fourth class of diseases.

M. M. Lemonade. Tasteful food. A blister. Warm bath.

4. *Ægritudo ventriculi.* Sickness of stomach is produced by the quiescence or inactivity of that organ, as is explained in Sect. XXXV. 1. 3. It consists in the state between the usual peristaltic motions of that organ, in the digestion of our aliment, and the retrograde motions of it in vomiting; for it is evident, that the direct motions of it from the cardia to the pylorus must stop, before those in a contrary direction can commence. This sickness, like the nausea above described, is sometimes produced by disgustful ideas, as when nasty objects are seen, and nasty stories related, as well as by the exhaustion of the sensorial power by the stimulus of

ſome emetic drugs, and by the defect of the production of it, as in enfeebled drunkards.

Sickneſs may likewiſe conſiſt in the retrograde motions of the lymphatics of the ſtomach, which regurgitate into it the chyle or lymph, which they have lately abſorbed, as in Claſs I. 3. 2. 3. It is probable, that theſe two kinds of ſickneſs may be different ſenſations, though they have acquired but one name; as one of them attends hunger, and the other repletion; though either of them may poſſibly be induced by aſſociation with nauſeous ideas.

M. M. A bliſter on the back. An emetic. Opium. Crude mercury. Covering the head in bed. See Sect. XXV. 16. Claſs IV. 1. 1. 2, and 3.

5. *Cardialgia.* Heartburn originates from the inactivity of the ſtomach, whence the aliment, inſtead of being ſubdued by digeſtion, and converted into chyle, runs into fermentation, producing acetous acid. Sometimes the gaſtric juice itſelf becomes ſo acid as to give pain to the upper orifice of the ſtomach; theſe acid contents of the ſtomach, on falling on a marble hearth, have been ſeen to produce an efferveſcence on it. The pain of heat at the upper end of the gullet, when any air is brought up from the fermenting contents of the ſtomach, is to be aſcribed to the ſympathy between theſe two extremities of the œſophagus rather than

to

to the pungency of the carbonic gas, or fixed air; as the ſenſation in ſwallowing that kind of air in water is of a different kind. See Claſs I. 3. 1. 3. and IV. 2. 2. 5.

M. M. This diſeaſe ariſing from indigeſtion is often very pertinacious, and afflicting; and attended with emaciation of the body from want of ſufficient chyle. As the ſaliva ſwallowed along with our food prevents its fermentation, as appears by the experiments of Pringle and Macbride, ſome find conſiderable relief by chewing parched wheat, or maſtic, or a lock of wool, frequently in a day, when the pain occurs, and by ſwallowing the ſaliva thus effuſed; a temporary relief is often obtained from antiacids, or aerated alcaline water, Seltzer water, calcareous earths, alcaline ſalts made into pills with ſoap, ſoap alone, tin, milk, bitters. More permanent uſe may be had from ſuch drugs as check fermentation, as acid of vitriol; but ſtill more permanent relief from ſuch things as invigorate the digeſtion, as a bliſter on the back; a due quantity of vinous ſpirit and water taken regularly. Steel. Temperance. A ſleep after dinner. A waiſtcoat made ſo tight as ſlightly to compreſs the bowels and ſtomach. A flannel ſhirt in winter, not in ſummer. A leſs quantity of potation of all kinds. Ten black pepper-corns ſwallowed after dinner. Half a grain of opium twice a day, or a grain. The food ſhould conſiſt of ſuch things as do not eaſily ferment, as fleſh, ſhell-

ſhell-fiſh, ſea-biſcuit, toaſted cheeſe. I have ſeen toaſted cheeſe brought up from the ſtomach 24 hours after it had been ſwallowed, without apparently having undergone any chemical change. See Claſs II. 1. 3. 17. and IV. 1. 2. 13.

It is probable that violent cardialgia is moſt frequently owing to increaſe of the quantity or acidity of the gaſtric juice, rather than to the acetous acid produced by fermenting aliment; becauſe in violent apepſy, as in low fevers, and total want of digeſtion, no ſuch violently ſtrong or painful acidity occurs. See I. 3. 1. 3. See Anorexia II. 2. 2. 1. And ſecondly, becauſe in all theſe caſes, which have come under my eye, the diſeaſe was not increaſed by vegetable food, or even by acid fruits, when taken in their uſual quantity; and I have uniformly obſerved, that the food which ſuited the palate, and that water alone, or ſmall wine and water, agreed with theſe patients better than ſtronger mixtures of ſpirit and water, eſpecially when they were more agreeable to the palate.

6. *Arthritis Ventriculi.* Sickneſs of the ſtomach in gouty caſes is frequently a conſequence of the torpor or inflammation of the liver, and then it continues many days or weeks. But when the patient is ſeized with great pain at the ſtomach with the ſenſation of coldneſs, which they have called an ice-bolt, this is a primary affection of the ſtomach, and deſtroys the patient in a few hours, owing to the

the torpor or inaction of that viscus so important to life.

This primary gout of the stomach, as it is a torpor of that viscus, is attended with sensation of coldness, and with real defect of heat in that part, and may thence be distinguished from the pain occasioned by the passage of a gall-stone into the duodenum, as well as by the weak pulse, and cold extremities; to which must be added, that it affects those only, who have been long afflicted with the gout, and much debilitated by its numerous attacks.

M. M. Opium. Vinous spirit. Volatile alcali. Spice. Warmth applied externally to the stomach by hot cloths or fomentation.

7. *Colica flatulenta.* The flatulent colic arises from the too great distention of the bowel by air, and consequent pain. The cause of this disease is the inactivity or want of sufficiently powerful contraction of the coats of the bowel, to carry forwards the gas given up by the fermenting aliment It is without fever, and generally attended with cold extremities.

It is distinguished, first, from the pain occasioned by the passage of a gall-stone, as that is felt at the pit of the stomach, and this nearer the navel. Secondly, it is distinguished from the colica saturnina, or colic from lead, as that arising from the torpor of the liver, or of some other viscus, is attended

tended with greater coldneſs, and with an aching pain; whereas the flatulent colic being owing to diſtention of the muſcles of the bowel, the pain is more acute, and the coldneſs leſs. Thirdly, it is diſtinguiſhed from inflammation of the bowels, or ileus, as perpetual vomiting and fever attend this. Fourthly, it is diſtinguiſhed from cholera, becauſe that is accompanied with both vomiting and diarrhœa. And laſtly, from the colica epileptica, or hyſteric colic, as that is liable to alternate with convulſion, and ſometimes with inſanity; and returns by periods.

M. M. Spirit of wine and warm water, one ſpoonful of each. Opium one grain. Spice. Volatile alcali. Warm fomentation externally. Rhubarb.

8. *Colica ſaturnina*. Colic from lead. The pain is felt about the navel, is rather of an aching than acute kind at firſt, which increaſes after meals, and gradually becomes more permanent and more acute. It terminates in paralyſis, frequently of the muſcles of the arm, ſo that the hand hangs down, when the arm is extended horizontally. It is not attended with fever, or increaſe of heat. The ſeat of the diſeaſe is not well aſcertained; it probably affects ſome part of the liver, as a pale bluiſh countenance and deficiency of bile ſometimes attend or ſucceed it, with conſequent anaſarca; but it ſeems to be cauſed immediately by a torpor of the inteſtine, whether

whether this be a primary or ſecondary affection, as appears from the conſtipation of the bowels, which attends it; and is always produced in conſequence of the great ſtimulus of lead previouſly uſed either internally for a length of time, or externally on a large ſurface.

A delicate young girl, daughter of a dairy farmer, who kept his milk in leaden ciſterns, uſed to wipe off the cream from the edges of the lead with her finger; and frequently, as ſhe was fond of cream, licked it from her finger. She was ſeized with the ſaturnine colic, and ſemi-paralytic wriſts, and ſunk from general debility.

A feeble woman about forty years of age, ſprained her ancle, and bruiſed her leg and thigh; and applied by ill advice a ſolution of lead over the whole limb, as a fomentation and poultice for about a fortnight. She was then ſeized with the colica ſaturnina, loſt the uſe of her wriſts, and gradually ſunk under a general debility.

There are various means by which lead finds its way into the ſyſtem; in the cyder counties of this country this diſeaſe has been frequently almoſt epidemic from the uſe of ſome lead about their mills, or by the pernicious uſe of it to correct the acidity of weak cyder. This diſeaſe has been ſo frequent in ſome of the wine countries, that in France the puniſhment of death is directed for thoſe, who uſe lead to deſtroy the acidity of wine.

There is a bad cuſtom in almoſt all families and public

public houſes of waſhing out their bottles by putting a handful of ſhot corns into them, and by ſhaking them about forcibly, by which the lead may in part adhere to the ſides of the bottle, and become diſſolved in the acid of the wine or cyder. Milk kept in lead is highly pernicious, as in the inſtance above related. Nor ſhould coppers for brewing be edged at the top of them with lead, which is frequently done; nor ſhould fleſh-meat be ſalted in leaden ciſterns. Another way by which lead is liable to be taken into the ſtomach is by broth, which is boiled in copper veſſels tinned within. Now the lining of theſe veſſels conſiſts, I am well informed, of nearly half lead mixed with the tin; which is very ſoluble in hot greaſe. From this cauſe thoſe, who live much on ſoups long boiled, as the French, are perpetually ſubject to complaints of the ſtomach and inteſtines. When a ſauce-pan has been new tinned, if the finger be rubbed hard on it, it becomes black; which is owing to the lead, which is mixed with the tin. Hence the broth for all ſick people ſhould be boiled but a ſhort time, and be immediately put into a china-baſon.

In an ingenious pamphlet lately publiſhed by Mr. Clutterbuck, ſeveral caſes are given of the ſucceſsful uſe of mercury in the conſtipation, colic, and paralyſis of the wriſts, produced by lead. In ſome of theſe patients a drachm of ſtrong mercurial ointment was rubbed morning and night on the wriſts,

wriſts, till the mouth became ſore. In others calomel one grain was given daily with ol. ricini; and in others a quarter of a grain of hydragyrum muriatum, ſublimate of mercury, was given three times a day with great apparent advantage. The author ingeniouſly aſks, if ſmall doſes of ſome preparation of lead might not be given internally to counteract the ill effects ſometimes believed to reſult from the too long uſe of mercury. On the Poiſon of Lead, Booſey, Lond. See Claſs III. 2. 1. 4.

The effect of metals in deſtroying or preventing the acidity of wine or cyder, may be nicely obſerved in attending to the colour of ſyrup of violets; which, if it ferments, is changed by the acid thus produced from blue to red: but if it be kept in a tin veſſel, this does not occur; as the acid is attracted by the metal producing an oxyde. Other metals are ſaid by M. Guyton, to have the ſame effect in preſerving the colour of ſyrup of violets.

M. M. Firſt opium one or two grains, then a cathartic of ſenna, jalap, and oil, as ſoon as the pain is relieved. Oleum ricini. Alum. Oil of almonds. A bliſter on the navel. Warm bath. The ſtimulus of the opium, by reſtoring to the bowel its natural irritability in this caſe of painful torpor, aſſiſts the action of the cathartic. A clyſter of the ſmoke of tobacco puſhed high up and continued, or repeated frequently for an hour or two,

or longer, is ſaid to remove the pain, and totally to cure the diſeaſe.

9. *Tympanitis.* Tympany conſiſts in an elaſtic tumor of the abdomen, which ſounds on being ſtruck. It is generally attended with coſtiveneſs and emaciation. In one kind the air is ſaid to exiſt in the bowels, in which caſe the tumor is leſs equal, and becomes leſs tenſe and painful on the evacuation of air. In the other kind the air exiſts in the cavity of the abdomen, and ſometimes is in a few days exchanged for water, and the tympany becomes an aſcites.

Air may be diſtinguiſhed in the ſtomach of many people by the ſound on ſtriking it with the fingers, and comparing the ſound with that of a ſimilar percuſſion on other parts of the bowels: but towards the end of fevers, and eſpecially in the puerperal fever, a diſtention of the abdomen by air is generally a fatal ſymptom, though the eaſe, and often cheerfulneſs of the patient, vainly flatters the attendants.

M. M. In the former caſe a clyſter-pipe unarmed may be introduced, and left ſome time in the rectum, to take off the reſiſtance of the ſphincter, and thus diſcharge the air, as it is produced from the fermenting or putrefying aliment. For this purpoſe, in a diſeaſe ſomewhat ſimilar in horſes, a perforation is made into the rectum on one ſide of the ſphincter;

ſphincter; through which fiſtula the air, which is produced in ſuch great exceſs from the quantity of vegetable food which they take, when their digeſtions are impaired, is perpetually evacuated. In both caſes alſo, balſams, eſſential oil, ſpice, bandage on the abdomen, and, to prevent the fermentation of the aliment, acid of vitriol, ſaliva. See Claſs I. 2. 4. 5.

10. *Hypochondriaſis.* The hypochondriac diſeaſe conſiſts in indigeſtion and conſequent flatulency, with anxiety or want of pleaſurable ſenſation. When the action of the ſtomach and bowels is impaired, much gas becomes generated by the fermenting or putreſcent aliment, and to this indigeſtion is catenated languor, coldneſs of the ſkin, and fear. For when the extremities are cold for too long a time in ſome weak conſtitutions, indigeſtion is produced by direct ſympathy of the ſkin and the ſtomach, with conſequent heartburn, and flatulency. The ſame occurs, if the ſkin be made cold by fear, as in riding over dangerous roads in winter, and hence converſely fear is produced by indigeſtion or torpor of the ſtomach by aſſociation

This diſeaſe is confounded with the fear of death, which is an inſanity, and therefore of a totally different nature. It is alſo confounded with the hyſteric diſeaſe, which conſiſts in the retrograde mo-

tions of the alimentary canal, and of ſome parts of the abſorbent ſyſtem.

The hypochondriaſis, like chloroſis, is ſometimes attended with very quick pulſe; which the patient ſeems to bear ſo eaſily in theſe two maladies, that if an accidental cough attends them, they may be miſtaken for pulmonary conſumption; which is not owing primarily to the debility of the heart, but to its direct ſympathy with the actions of the ſtomach.

M. M. Bliſter. A plaſter of Burgundy pitch on the abdomen. Opium a grain twice a day. Rhubarb ſix grains every night. Bark. Steel. Spice. Bath-water. Sieſta, or ſleep after dinner. Uniform hours of meals. No liquor ſtronger than ſmall beer, or wine and water. Gentle exerciſe on horſeback in the open air uniformly perſiſted in. See Cardialgia, I. 2. 4. 5.

11. *Cephalæa idiopathica.* Head-achs, which are attended with inflammation, are termed phrenitis, deſcribed in Claſs II. 1. 2. 3. Thoſe, which are not attended with inflammation, may be divided into ſuch as affect the whole head, to which the word cephalæa is applied, and into ſuch as affect one ſide of the head only at a time, which is termed hemicrania. The former of theſe may be divided into cephalæa idiopathica, and cephalæa ſympathetica; and the latter into hemicrania idiopathica, and hemicrania ſympathetica. Beſides

theſe

these there exists a cephalæa somniosa, a cephalæa syphilitica, and a cephalæa hydropica.

The idiopathic head-ach frequently attends the cold paroxysm of intermittents; afflicts inebriates the day after intoxication; and many people who remain too long in the cold bath. In all which cases there is a general inaction of the whole system, and as these membranes about the head have been more exposed to the variations of heat and cold of the atmosphere, they are more liable to become affected so far as to produce sensation, than other membranes; which are usually covered either with clothes, or with muscles, as mentioned in Sect. XXXIII. 2. 10.

The promptitude of the membranes about the scalp to sympathize with those of other parts of the system is so great, that this cephalæa without fever, or quickness of pulse, is more frequently a secondary than a primary disease, and then belongs to Class IV. 2. 2. 7. The hemicrania, or partial head-ach, I believe to be almost always a disease from association; though it is not impossible, but a person may take cold on one side of the head only. As some people by sitting always on the same side of the fire in winter are liable to render one side more tender than the other, and in consequence more subject to pains, which have been erroneously termed rheumatic.

M. M. The method of cure consists in rendering the habit more robust, by gentle constant ex-

ercife in the open air, flefh diet, fmall beer at meals with one glafs of wine, regular hours of reft and rifing, and of meals. The clothing about the head fhould be warmer during fleep than in the day; becaufe at that time people are more liable to take cold; that is, the membranous parts of it are more liable to become torpid; as explained in Sect. XVIII. 15. In refpect to medicine, two drams of valerian root in powder three or four times a day are recommended by Fordyce. The bark. Steel in moderate quantities. An emetic. A blifter. Opium, half a grain twice a day. Decayed teeth fhould be extracted, particularly fuch as either ache, or are ufelefs. Cold bath between 60 and 70 degrees of heat. Warm bath of 94 or 98 degrees every day for half an hour during a month. See Clafs IV. 2. 2. 7. and 8. and IV. 2. 4. 3.

A folution of arfenic, about the fixteenth part of a grain, is reported to have great effect in this difeafe. It fhould be taken thrice a day, if it produces no griping or ficknefs, for two or three weeks. A medicine of this kind is fold under the name of taftelefs ague-drops; but a more certain method of afcertaining the quantity is delivered in the preceding Materia Medica, Art. IV. 2. 6. 8. Five grains of the powdered leaves of Atropa Belladonna are recommended in fome foreign publication to be repeated once in two days,

and

and are ſaid to be ſucceſsful in the dolor faciei, or hemicrania idiopathica.

Cephalæa ſomnioſa. Head-ach from ſleep. This diſeaſe has not been deſcribed, I believe, by any writer, though it affects ſome invalides for years. After ſome hours of ſleep the patients are afflicted with diſtreſſing dreams, and awake with pain of the head, which continues for ſome time after they awake; and ſo circumſtanced furniſhes the diagnoſtic ſymptom of this ſpecies of cephalæa.

The paroxyſms or repetitions of many diſeaſes are liable to commence in ſleep, ſome from the increaſe of ſenſibility during ſleep, as explained in Sect. XVIII. 5. and 15. of the firſt part of this work, as thoſe of ſome epilepſies, of ſome aſthmas, and of the gout. Other diſeaſes are liable to return during ſleep from the debility of the pulmonary circulation, or of pulmonary abſorption, as in ſomnus interruptus, Claſs I. 2. 1. 3. and in incubus, or night-mare, Claſs III. 2. 1. 13. and in hæmoptoe venoſa, Claſs I. 2. 1. 9. and probably in the humoral aſthma, Claſs II. 1. 1. 8.

The cephalæa ſomnioſa I ſuſpect to bear the ſame analogy to the hydrocephalus internus, as I believe the aſthma humorale to bear to the anaſarca pulmonum; and to conſiſt in this circumſtance, that during ſleep in the cephalæa ſomnioſa a temporary congeſtion of fluid may occur in ſome part of the brain, as a permanent one

occurs in the hydrocephalus internus; in the ſame manner as I believe in the aſthma humorale a temporary congeſtion of fluid occurs in ſome part within the cheſt, and a permanent one in the anaſarca of the lungs.

M. M. The patient ſhould ſleep with his head raiſed high on many pillows, and wear drawers to prevent his ſlipping down in bed. 2. He ſhould ſleep on a hardiſh bed, or mattreſs, to prevent his ſleeping too profoundly, or too long together. 3. Or he may be wakened, after having ſlept a certain number of hours, by an alarum clock. 4. Any carious teeth ſhould be extracted, as the matter from putrid bones, ſwallowed with the ſaliva, weakens the ſyſtem by its effect on the ſtomach. 5. Twenty drops of ſaturated tincture of digitalis may be taken twice or thrice a day for three or four weeks. 6. Half a grain of opium and ſix grains of rhubarb ſhould be taken every night for many weeks or months. 7. Oxygen gas may be reſpired daily for a time, till its effect can be known.

12. *Hemicrania idiopathica.* This diſeaſe is deſcribed by Sauvages under the name of triſmus dolorificus, or tic douloureux, in Claſs IV. ord. 1. gen. 2. ſpec. 14. of his elaborate work. But the word triſmus is an improper name, as no fixed ſpaſm like the locked jaw exiſts in this malady, nor any ſtridor dentium, or convulſion of the muſcles of

of the face, or trick, attends these patients in the few cases which I have witnessed, though this may possibly occur occasionally as the consequence of disagreeable sensation, or to relieve it. I suppose the word tic douloureux is a vulgar French expression, like megrim in English.

The cause of this afflicting disease is yet unknown. As it does not appear to sympathize with a diseased tooth, like the hemicrania sympathetica, described in Class IV. 2. 2. 8. I suspect the cause to consist in a diseased state of the nerve itself, or of its covering or theca, and to resemble the sciatica frigida, mentioned below; or to resemble some of those pains, which are succeeded or relieved by epileptic convulsions, described in Class III. 1. 1. 8. and that it thus differs from the hemicrania sympathetica; as in this the cause of the disease, and the seat of the pain, exist in the same place.

One case, which occurred to me long ago, of this disease, was of an elderly gentleman, Mr. W. of Lichfield, who had long lost all his teeth; the pain began chiefly about the cheek-bone, and extended sometimes to the ala of the nose, and to other parts of the face on the same side; on examining the gums of the upper jaw, there was no suspicion of any stump of a decayed tooth remaining in the alveolar processes; nor was there any reason to suspect any disease of the maxillary sinus. Whence this did not appear to be any kind

of sympathetic hemicrania. He was afflicted with it for many years till his death.

The case of Mr. B. a gentleman between 20 and 30 years of age, whom I was lately concerned for, in this disease, is well worthy a minute description; I shall therefore copy a letter, which I wrote on his case to Mr. Cruikshank, and an answer I received some time after from his partner, Mr. Leigh Thomas, who I hope will publish the successful method of cure, with adapted prints.

To Mr. Cruikshank.

Sir, *Derby, Dec.* 1798.

Mr. Bosworth, whose case I wish to remind you of, consulted you some time ago in London, and I believe that you then told him, that his head-ach was owing to a disease of the third branch of the fifth pair of nerves. He came under my care at Derby a few weeks ago, and complained of much pain about the left cheek-bone; I suspected the antrum maxillare might be diseased, and as the second of the dentes molares had then been lately extracted, I desired a perforation might be made into the antrum, which was done by Mr. Hadley, of this town, and kept open for two or three days without advantage. Afterwards, by friction about the head and neck with mercurial unguent, he was copiously salivated for a few days, and had another

another tooth extracted by his own desire, and had lastly an incision made by Mr. Hadley, so as to divide the artery near the centre of the ear next the cheek, hoping to divide a branch of the affected nerve, but without success; and internally, opiates in large quantity were given, when the pain was exceedingly violent, the bark also was used for a time in large quantity without effect.

On attending, as much as I could, to his sensations when in pain, he seems to express the commencement of the periods of pain to exist about the part of the left cheek before the middle of the ear; and then draws his finger from thence to the fore part of the lower jaw sometimes, and to the ala of the nose on that side; and at other times he draws his finger from the same part of the cheek before the ear upwards to the orbit of the eye, and from thence downwards, a little way on the nose; and also he complains of pain under his tongue on the same side. The pain returns many times in an hour on some days, and continues many minutes, during which he seems to stretch and exert his arms, and appears to have a tendency to epileptic actions; and his life is thus miserable to himself, and uncomfortable for his friends to witness.

I write this to you to beg that you will acquaint Mr. Bosworth, whether you think you could divide by incision the diseased nerve; as he is willing to undergo such an operation, if you think it practicable,

ticable, as I believe it to be the only means, which promiſes to cure him; and have therefore adviſed him again to apply to you; and if you think this can be done with effect, he deſigns to wait on you in London.

I am, ſir, &c,

E. DARWIN.

The following anſwer of Mr. Leigh Thomas ſhews the diſeaſe to have exiſted in every branch of the affected nerve.

Sir, *Leiceſter-ſquare, May,* 1799.

About the middle of December laſt, you did Mr. Cruikſhank the favour to write him an account of Mr. Boſworth, a young gentleman, ſome time under your care at Derby, with a painful affection of the nerves of his face. The patient ſoon after came to town in a much worſe ſtate, than you deſcribed him to be at that time; as the pain was extremely acute and almoſt unremitting, opiates, which he had been in the habit of taking occaſionally, afforded him now little or no relief, though taken to the quantity of ſix tea-ſpoonfuls of laudanum at a time. After paying every attention to the caſe, your ſuggeſtion of the neceſſity of dividing the diſeaſed nerve appeared obvious.

As the pain was felt more acute in the left ala of the noſe, and the upper lip of the ſame ſide, we

we were induced to divide the ſecond branch of the fifth pair of nerves, as it paſſes out at the infra-orbital foramen. He was inſtantly relieved in the noſe and lip; but towards night the pain from the eye to the crown of the head became more acute than ever. Two days after, we were obliged to cut through the firſt branch paſſing out at the ſupra-orbital foramen; this afforded him the like relief with the firſt. On the ſame day the pain attacked, with great violence, the lower lip on the left ſide, and the chin; this circumſtance induced the neceſſity of dividing the third branch paſſing out at the foramen mentale. During the whole period, from the firſt diviſion of the nerves, he had frequent attacks of pain on the ſide of the tongue; theſe however diſappeared on diviſion of the laſt nerve.

Mr. Cruikſhank performed the above operations, but being particularly engaged at this time with lectures and other buſineſs, he now gave up the caſe to my management. The patient was evidently bettered by each operation; ſtill the pain was very ſevere, paſſing from the ear under the zygoma towards the noſe and mouth, and upwards round the orbit. This route proved pretty clearly, that the portio dura of the auditory nerve was alſo affected; at leaſt the uppermoſt branch of the pes anſerinus. Before I proceeded to divide this, I was willing to try the effect of arſenic internally, and

and he took it in ſufficient quantity to excite nauſea and vertigo, but without perceiving any good effect.

I could now truſt only to the knife to alleviate his miſery, as the pain round the orbit was become moſt violent; and therefore intercepted the nerve by an inciſion acroſs the ſide of the noſe, and alſo made ſome ſmaller inciſions about the ala naſi. To divide the great branch lying below the zygomatic proceſs, I found it neceſſary to paſs the ſcalpel through the maſſeter muſcle, till it came in contact with the jaw-bone, and then to cut upwards; this relieved him as uſual. Then the lower branch was affected, and alſo divided: then the middle branch running under the parotid gland. In cutting this, the gland was conſequently divided into two equal parts, and healed tolerably well after a copious diſcharge of ſaliva for ſeveral days.

I hoped and expected, that this laſt operation would have terminated his ſufferings and my difficulties; but the pain ſtill affected the lower lip and ſide of the noſe, and upon coughing, or ſwallowing, his miſery was dreadful. This pain could only ariſe from branches from the ſecond of the fifth pair paſſing into the cheek, and lying between the pterygoideus internus muſcle, and the upper part of the lower jaw. The ſituation of this nerve rendered the operation hazardous, but after ſome attempts

attempts it was accomplished, and this day he set out for Leicestershire perfectly restored.

I am, sir, &c.

Leigh Thomas.

Since I wrote the above, I have seen an equally deplorable and instructive case, of hemicrania idiopathica, of an elderly person, described by Dr. Haighton, under the name of tic douloureux, with an equally successful cure, by dividing the diseased nerves. Medical Records and Researches. Cox, London.

Two cases of tic douloureux are related by a Dr. Watson, in the Recueil périodique de Médecine, Paris, 1798, tom. IV. which are said to have submitted to mercurial frictions and warm bathing. These pains were probably venereal symptoms, as the author suspects; but would persuade us again to try the use of mercury, though it failed in the case above related, and especially as it sometimes succeeds in the hemicrania sympathetica, as mentioned in Class IV. 2. 2. 8. Five grains of the powdered leaf of belladonna are said to have been successful. See Cephalæa idiopathica.

13. *Odontalgia.* Tooth-ach. The pain has been erroneously supposed, where there is no inflammation, to be owing to some acrid matter from a carious tooth stimulating the membrane of the alveolar process into violent action and conse-

quent

quent pain; but the effect ſeems to have been miſtaken for the cauſe, and the decay of the tooth to have been occaſioned by the torpor and conſequent pain of the diſeaſed membrane.

Firſt, becauſe the pain precedes the decay of the tooth in regard to time, and is liable to recur, frequently for years, without certainly being ſucceeded at laſt by a carious tooth, as I have repeatedly obſerved.

Secondly, becauſe any ſtimulant drug, as pyrethrum, or oil of cloves, applied to the tooth, or ether applied externally to the cheek, is ſo far from increaſing the pain, as it would do if the pained membrane already acted too ſtrongly, that it frequently gives immediate relief like a charm.

And thirdly, becauſe the torpor, or deficient action of the membrane, which includes the diſeaſed tooth, occaſions the motions of the membranes moſt connected with it, as thoſe of the cheek and temples, to act with leſs than their natural energy; and hence a coldneſs of the cheek is perceived eaſily by the hand of the patient, comparing it with the other cheek; and the pain of hemicrania is often produced in the temple of the affected ſide.

This coldneſs of the cheek in common toothach evinces, that the pain is not then cauſed by inflammation; becauſe in all inflammations ſo much heat is produced in the ſecretions of new veſſels and fluids, as to give heat to the parts in the vicinity.

vicinity. And hence, as ſoon as the gum ſwells and inflames along with the cheek, heat is produced, and the pain ceaſes, owing to the increaſed exertions of the torpid membrane, excited by the activity of the ſenſorial power of ſenſation; which previouſly exiſted in its paſſive ſtate in the painful torpid membrane. See Odontitis, Claſs II. 1. 4. 7. and IV. 2. 2. 8.

M. M. If the painful tooth be found, veneſection. Then a cathartic. Afterwards two grains of opium. Camphor and opium, one grain of each held in the mouth; or a drop or two of oil of cloves put on the painful tooth. Ether. If the tooth has a ſmall hole in it, this ſhould be widened within by an inſtrument, and then ſtopped with leaf-gold, or leaf-lead; but the tooth ſhould be extracted, if much decayed. It is probable that half a ſmall drop of a ſtrong ſolution of arſenic, put carefully into the hollow of a decayed aching tooth, would deſtroy the nerve without giving any additional pain; but this experiment requires great caution, leſt any of the ſolution ſhould touch the tongue or gums.

Much cold and much heat are equally injurious to the teeth, which are endued with a fine ſenſation of this univerſal fluid. The beſt method of preſerving them is by the daily uſe of a bruſh, which is not very hard, with warm water and fine charcoal duſt. A lump of charcoal ſhould be put a ſecond time into the fire till it is red hot, as ſoon

as

as it becomes cool the external aſhes ſhould be blown off, and it ſhould be immediately reduced to fine powder in a mortar, and kept cloſe ſtopped in a phial. It takes away the bad ſmell from decayed teeth, by waſhing the mouth with this powder diffuſed in water, immediately. The putrid ſmell of decaying ſtumps of teeth may be deſtroyed for a time by waſhing the mouth with a weak ſolution of alum in water. If the calcareous cruſt upon the teeth adheres very firmly, a fine powder of pumice-ſtone may be uſed occaſionally, or a tooth-inſtrument.

Acid of ſea-ſalt, much diluted, may be uſed; but this very rarely, and with the greateſt caution, as in cleaning ſea-ſhells. When the gums are ſpongy, they ſhould be frequently pricked with a lancet. Should black ſpots in teeth be cut out? Does the enamel grow again when it has been perforated or abraded?

Otalgia. Ear-ach ſometimes continues many days without apparent inflammation, and is then frequently removed by filling the ear with laudanum, or with ether; or even with warm oil, or warm water. See Claſs II. 1. 4. 8. This pain of the ear, like hemicrania, is frequently the conſequence of aſſociation with a diſeaſed tooth; in that caſe the ether ſhould be applied to the cheek over the ſuſpected tooth, or a grain of opium and as much camphor mixed together, and applied to the

ſuſpected

ſuſpected tooth. In this caſe the otalgia belongs to the fourth claſs of diſeaſes.

14. *Pleurodyne chronica.* Chronical pain of the ſide. Pains of the membranous parts, which are not attended with fever, have acquired the general name of rheumatic; which ſhould, neverthelefs, be reſtricted to thoſe pains which exiſt only when the parts are in motion, and which have been left after inflammation of them; as deſcribed in Claſs I. 1. 3. 12. The pain of the ſide here mentioned affects many ladies, and may poſſibly have been owing to the preſſure of tight ſtays, which has weakened the action of the veſſels compoſing ſome membranous part, as, like the cold head-ach, it is attended with preſent debility; in one patient, a boy about ten years old, it was attended with daily convulſions, and was ſuppoſed to have originated from worms. The diſeaſe is very frequent, and generally withſtands the uſe of bliſters on the part; but in ſome caſes I have known it removed by electric ſhocks repeated every day for a fortnight through the affected ſide.

Pains of the ſide may be ſometimes occaſioned by the adheſion of the lungs to the pleura, after an inflammation of them; or to the adheſion of ſome abdominal viſcera to their cavity, or to each other; which alſo are more liable to affect ladies from the unnatural and ungraceful preſſure of tight ſtays, or by ſitting or lying too long in one poſture. But

in theſe caſes the pain ſhould be more of the ſmarting, than of the dull kind.

M. M. Ether. A bliſter. A plaſter of Burgundy pitch. An iſſue or ſeton on the part. Electric ſhocks. Friction on the part with oil and camphor. Looſe dreſs. Frequent change of poſture both in the day and night. Internally, opium, valerian, bark.

15. *Sciatica frigida.* Cold ſciatica. The pain along the courſe of the ſciatic nerve, from the hip quite down to the top of the foot, when it is not attended with fever, is improperly termed either rheumatiſm or gout; as it occurs without inflammation, is attended with pain when the limb is at reſt; and as the pain attends the courſe of the nerve, and not the courſe of the muſcles, or of the faſcia, which contains them. The theory of Cotunnius, who believed it to be a dropſy of the ſheath of the nerve, which was compreſſed by the accumulated fluid, has not been confirmed by diſſection. The diſeaſe ſeems to conſiſt of a torpor of this ſheath of the nerve, and the pain ſeems to be in conſequence of this torpor. See Claſs II. 1. 2. 17.

M. M. Veneſection. A cathartic. And then one grain of calomel and one of opium every night for ten ſucceſſive nights. And a bliſter, at the ſame time, a little above the knee-joint on the outſide of the thigh, where the ſciatic nerve is not ſo

ſo deep ſeated. Warm bath. Cold bath. Cover the limb with oiled ſilk, or with a plaſter-bandage of emplaſtrum de minio.

16. *Lumbago frigida.* Cold lumbago. When no fever or inflammation attends this, pain of the loins, and the pain exiſts without motion, it belongs to this genus of diſeaſes, and reſembles the pain of the loins in the cold fit of ague. As theſe membranes are extenſive, and more eaſily fall into quieſcence, either by ſympathy, or when they are primarily affected, this diſeaſe becomes very afflicting, and of great pertinacity. See Claſs II. 1. 2. 17.

M. M. Veneſection. A cathartic. Iſſues on the loins. Adheſive plaſter on the loins. Bliſter on the os ſacrum. Warm bath. Cold bath. Remove to a warmer climate in the winter. Looſe dreſs about the waiſt. Friction daily with oil and camphor.

17. *Hyſteralgia frigida.* Cold pain of the uterus preceding or accompanying menſtruation. It is attended with cold extremities, want of appetite, and other marks of general debility.

M. M. A clyſter of half a pint of gruel, and 30 drops of laudanum; or a grain of opium and ſix grains of rhubarb every night. To ſit over warm water, or go into a warm bath.

18. *Proctalgia frigida.* Cold pain at the bottom of the rectum previous to the tumor of the piles, which ſometimes extends by ſympathy to the loins; it ſeems to be ſimilar to the pain at the beginning of menſtruation, and is owing to the torpor or inirritability of the extremity of the alimentary canal, or to the obſtruction of the blood in its paſſage through the liver, when that viſcus is affected, and its conſequent delay in the veins of the rectum, occaſioning tumors of them, and dull ſenſations of pain.

M. M. Calomel. A cathartic. Spice. Clyſter, with 30 drops of laudanum. Sitting over warm water. If chalybeates after evacuation? See Claſs I. 2. 3. 23. and I. 2. 1. 6.

19. *Veſicæ felleæ inirritabilitas.* The inirritability of the gall bladder probably occaſions one kind of *icterus*, or jaundice; which is owing to whatever obſtructs the paſſage of bile into the duodenum. The jaundice of aged people, and which attends ſome fevers, is believed to be moſt frequently cauſed by an irritative palſy of the gall-bladder; on which account the bile is not preſſed from the cyſt by its contraction, as in a paralyſis of the urinary bladder.

A thickening of the coats of the common bile-duct by inflammation or increaſed action of their veſſels ſo as to prevent the paſſage of the bile into the inteſtine, in the ſame manner as the membrane,

 which

which lines the noſtrils, becomes thickened in catarrh ſo as to prevent the paſſage of air through them, is probably another frequent cauſe of jaundice, eſpecially of children; and generally ceaſes in about a fortnight, like a common catarrh, without the aid of medicine; which has given riſe to the character, which charms have obtained in ſome countries for curing the jaundice of young people.

The ſpiſſitude of the bile is another cauſe of jaundice, as mentioned in Claſs I. 1. 3. 8. This alſo in children is a diſeaſe of little danger, as the gall-ducts are diſtenſible, and will the eaſier admit of the excluſion of gall-ſtones; but becomes a more ſerious diſeaſe in proportion to the age of the patient, and his habits of life in reſpect to ſpirituous potation.

A fourth cauſe of jaundice is the compreſſion of the bile-duct by the enlargement of an inflamed or ſcirrhous liver; this attends thoſe who have drunk much ſpirituous liquor, and is generally ſucceeded by dropſy and death.

M. M. Repeated emetics. Mild cathartics. Warm bath. Electricity. Bitters. Then ſteel, which, when the pain and inflammation are removed by evacuations, acts like a charm in removing the remainder of the inflammation, and by promoting the abſorption of the new veſſels or fluids; like the application of any acrid eye-water at the end of ophthalmia; and thus the thickened coats of the bile-duct become reduced, or the enlargement

of the liver leſſened, and a free paſſage is again opened for the bile into the inteſtine. Ether with yolk of egg is recommended, as having a tendency to diſſolve inſpiſſated bile. And a decoction of madder is recommended for the ſame purpoſe; becauſe the bile of animals, whoſe food was mixed with madder, was found always in a dilute ſtate. Aerated alcaline water, or ſeltzer water. Raw cabbage, and other acrid vegetables, as water-creſſes, muſtard. Horſes are ſaid to be ſubject to inſpiſſated bile, with yellow eyes, in the winter ſeaſon, and to get well as ſoon as they feed on the ſpring graſs.

The largeſt bile-ſtone I have ſeen was from a lady, who had parted with it ſome years before, and who had abſtained above ten years from all kinds of vegetable diet to prevent, as ſhe ſuppoſed, a colic of her ſtomach, which was probably a pain of the biliary duct; on reſuming the uſe of ſome vegetable diet, ſhe recovered a better ſtate of health, and formed no new bilious concretions.

A ſtrong aerated alcaline water is ſold by J. Schweppe, No. 8, King-ſtreet, Holborn. See Claſs I. 1. 3. 10.

20. *Pelvis renalis inirritabilitas.* Inirritability of the pelvis of the kidney. When the nucleus of a ſtone, whether it be inſpiſſated mucus, or other matter, is formed in the extremity of any of the tubuli uriniferi, and being detached from thence

falls

falls into the pelvis of the kidney, it is liable to lodge there from the want of due irritability of the membrane; and in that ſituation increaſes by new appoſitions of indurated animal matter, in the ſame manner as the ſtone of the bladder. This is the general cauſe of hæmorrhage from the kidney; and of obtuſe pain in it on exerciſe; or of acute pain, when the ſtone advances into the ureter. See Claſs I. 1. 3. 9.

ORDO II.

Decreaſed Irritation.

GENUS V.

Decreaſed Action of the Organs of Senſe.

SPECIES.

1. *Stultitia inirritabilitas.* Folly from inirritability. Dulneſs of perception. When the motions of the fibrous extremities of the nerves of ſenſe are too weak, to excite ſenſation with ſufficient quickneſs and vigour. The irritative ideas are nevertheleſs performed, though perhaps in a feeble manner, as ſuch people do not run againſt a poſt, or walk into a well. There are three other kinds of folly; that from deficient ſenſation, from deficient volition, and from deficient aſſociation, as will be mentioned in their places. In delirium, reverie, and ſleep, the power of perception is aboliſhed from other cauſes.

2. *Viſus imminutus.* Diminiſhed viſion. In our approach to old age our viſion becomes imperfect, not only from the form of the cornea, which becomes leſs convex, and from its decreaſed tranſparency mentioned in Claſs I. 1. 3. 14; but alſo from the decreaſed irritability of the optic nerve. Thus,

Thus, in the inirritative or nervous fever, the pupil of the eye becomes dilated; which in this, as well as in the dropſy of the brain, is generally a fatal ſymptom. A part of the cornea as well as a part of the albuginea in theſe fevers is frequently ſeen during ſleep; which is owing to the inirritability of the retina to light, or to the general pareſis of muſcular action, and in conſequence to the leſs contraction of the ſphincter of the eye, if it may be ſo called, at that time.

In ſome eyes there is an inaptitude to adapt themſelves to the perception of objects at different diſtances, which I ſuppoſe may be owing to the inirritability of thoſe muſcular fibres, which conſtitute the ciliary proceſs, ſo well deſcribed and explained by Dr. Porterfield, and in the Scots Medical Eſſays, and ſo elegantly ſeen in a diſſected eye. It was formerly believed, and has indeed lately been again pretended, that the focus of the cryſtalline humour was adapted to objects at different diſtances by a change of the ſhape of the whole eye by the action of the external muſcles, which are inſerted into the tunica albuginea, and give motion to it in every direction: but in anſwer to this may be obſerved, that if the common actions of the muſcles affected the focus of the eye, every motion of the eye-ball, when we attend to objects at any diſtance, muſt diſturb our viſion. At the ſame time though it is poſſible, that a violent action of all the muſcles together, ſo as to counter-

balance

balance each other, and keep the eye motionleſs, as when we look painfully at a very diſtant object, may in ſome degree affect the form of it; yet that the contraction of the ciliary proceſs perpetually adapts the focus of the cryſtalline lens to the diſtance of the retina is not to be diſputed.

There have been inſtances of ſome, who could not diſtinguiſh certain colours; and yet whoſe eyes, in other reſpects, were not imperfect. Philoſ. Tranſact. Which ſeems to have been owing to the want of irritability, or the inaptitude to action, of ſome claſſes of fibres which compoſe the retina. Other permanent defects depend on the diſeaſed ſtate of the external organ. Claſs I. 1. 3. 14. I. 2. 2. 13. IV. 2. 1. 11.

3. *Muſcæ volitantes.* Dark ſpots appearing before the eyes, and changing their apparent place with the motions of the eyes, are owing to a temporary defect of irritability of thoſe parts of the retina, which have been lately expoſed to more luminous objects than the other parts of it, as explained in Sect. XL. 2. Hence dark ſpots are ſeen on the bed-clothes by patients, when the optic nerve is become leſs irritable, as in fevers with great debility; and the patients are perpetually trying to pick them off with their fingers to diſcover what they are; for theſe parts of the retina of weak people are ſooner exhauſted by the ſtimu-

lus of bright colours, and are longer in regaining their irritability.

Other kinds of ocular ſpectra, as the coloured ones, are alſo more liable to remain in the eyes of people debilitated by fevers, and to produce various hallucinations of ſight. For after the contraction of a muſcle, the fibres of it continue in the laſt ſituation, till ſome antagoniſt muſcles are exerted to retract them; whence, when any one is much exhauſted by exerciſe, or by want of ſleep, or in fevers, it is eaſier to let the fibres of the retina remain in their laſt ſituation, after having been ſtimulated into contraction, than to exert any antagoniſt fibres to replace them.

As the optic nerves at their entrance into the eyes are each of them as thick as a crow-quill, it appears that a great quantity of ſenſorial power is expended during the day in the perpetual activity of our ſenſe of viſion, beſides that uſed in the motions of the eye-balls and eye-lids; as much I ſuppoſe as is expended in the motions of our arms, which are ſupplied with nerves of about the ſame diameters. From hence we may conclude, that the light ſhould be kept from patients in fevers with debility, to prevent the unneceſſary exhauſtion of the ſenſorial power. And that on the ſame account their rooms ſhould be kept ſilent as well as dark; that they ſhould be at reſt in a horizontal poſture; and be cooled by a blaſt of cool air, or by waſhing them with

with cold water, whenever their ſkins are warmer than natural.

4. *Strabiſmus.* Squinting is generally owing to one eye being leſs perfect than the other; on which account the patient endeavours to hide the worſt eye in the ſhadow of the noſe, that his viſion by the other may not be confuſed. Calves, which have an hydatide with inſects incloſed in it in the frontal ſinus on one ſide, turn towards the affected ſide; becauſe the viſion on that ſide, by the preſſure of the hydatide, becomes leſs perfect; and the diſeaſe being recent, the animal turns round, expecting to get a more diſtinct view of objects.

In the hydrocephalus internus, where both eyes are not become inſenſible, the patient ſquints with only one eye, and views objects with the other, as in common ſtrabiſmus. In this caſe it may be known on which ſide the diſeaſe exiſts, and that it does not exiſt on both ſides of the brain; in ſuch circumſtances, as the patients I believe never recover as they are now treated, might it not be adviſeable to perforate the cranium over the ventricule of the affected ſide? which might at leaſt give room and ſtimulus to the affected part of the brain?

M. M. If the ſquinting has not been confirmed by long habit, and one eye be not much worſe than the other, a piece of gauze ſtretched on a circle of

whale-

whale-bone, to cover the beſt eye in ſuch a manner as to reduce the diſtinctneſs of viſion of this eye to a ſimilar degree of imperfection with the other, ſhould be worn ſome hours every day. Or the better eye ſhould be totally darkened by a tin cup covered with black ſilk for ſome hours, daily, by which means the better eye will be gradually weakened by the want of uſe, and the worſe eye will be gradually ſtrengthened by uſing it. Covering an inflamed eye in children for weeks together, is very liable to produce ſquinting, for the ſame reaſon.

5. *Amauroſis.* Gutta ſerena. Is a blindneſs from the inirritability of the optic nerve. It is generally eſteemed a palſy of the nerve, but ſhould rather be deemed the death of it, as paralyſis has generally been applied to a deprivation only of voluntary power. This is a diſeaſe of dark eyes only, as the cataract is a diſeaſe of light eyes only. At the commencement of this diſeaſe, very minute electric ſhocks ſhould be repeatedly paſſed through the eyes; ſuch as may be produced by putting one edge of a piece of ſilver the ſize of a half crown piece beneath the tongue, and one edge of a piece of zinc of a ſimilar ſize between the upper lip and the gum, and then repeatedly bringing their exterior edges into contact, by which means very ſmall electric ſparks become viſible in the eyes.

Mrs. T—— had for ſome weeks complained of imperfect ſight. For the laſt fortnight ſhe could not

not in leſs than a minute ſpell out a ſingle word in a large print. Her eyes black, and the pupils large. Very ſlight electric ſhocks, not ſparks, were paſſed through the forepart of her forehead twice a day, and the zinc and ſilver pencils as mentioned below were uſed many times a day. She took valerian and columbo internally, and regained her ſight very perfectly in about three weeks.

I uſed in the above caſe a more convenient and efficacious method of galvaniſm by employing two rods, one of them of zinc about the ſize of a writing pencil, and the other a ſilver pencil-caſe about the ſame ſize; and by putting the end of the zinc rod in contact with the external corner of one eye, and the end of the ſilver pencil-caſe in contact with the external corner of the other eye, and then repeatedly making the other ends touch each other; ſparks will be viſible in the eyes both at the time of contact and at the time of ſeparation of the two rods. This experiment was publiſhed by Volta ſince the former one by Galvani. See Sect. XIV. 5. of Vol. I.

A foreign phyſician, profeſſor Arnemann, has lately recommended the production of vertigo in gutta ſerena, as he ſays, to accumulate more blood in the head. If this ſhould be really found of advantage the patient might lie on a large mill-ſtone, which might be ſuffered to turn ſlowly, but a very great velocity of the whirling ſtone might occaſion ſleep, apoplexy, and death. See Supl. I. 15. 7.

M. M. Minute

M. M. Minute electric ſhocks. A grain of opium, and a quarter of a grain of corroſive ſublimate of mercury, twice a day for four or ſix weeks. Bliſter on the crown of the head. Errhines, ſo as to induce violent ſneezing twice a day for a week.

6. *Auditus imminutus.* Diminiſhed hearing. Deafneſs is a frequent ſymptom in thoſe inflammatory or ſenſitive fevers with debility, which are generally called putrid; it attends the general ſtupor in thoſe fevers, and is rather eſteemed a ſalutary ſign, as during this ſtupor there is leſs expenditure of ſenſorial power.

In fevers of debility without inflammation, called nervous fevers, I ſuſpect deafneſs to be a bad ſymptom, ariſing, like the dilated pupil, from a partial paralyſis of the nerve of ſenſe. See Claſs IV. 2. 1. 15.

Nervous fevers are ſuppoſed by Dr. Gilchriſt to originate from a congeſtion of ſerum or water in ſome part of the brain, as many of the ſymptoms are ſo ſimilar to thoſe of hydrocephalus internus, in which a fluid is accumulated in the ventricles of the brain; on this idea the inactivity of the optic or auditory nerves in theſe fevers may ariſe from the compreſſion of the effuſed fluid; while the torpor attending putrid fever may depend on the meninges of the brain being thicken-

ed

ed by inflammation, and thus compreſſing it; now the new veſſels, or the blood, which thickens inflamed parts, is more frequently re-abſorbed, than the effuſed fluid from a cavity; and hence the ſtupor in one caſe is leſs dangerous than in the other.

In inflammatory or ſenſitive fevers with debility, deafneſs may ſometimes ariſe from a greater ſecretion and abſorption of the ear-wax, which is very ſimilar to the bile, and is liable to fill the meatus auditorius, when it is too viſcid, as bile obſtructs the gall-ducts.

M. M. In deafneſs without fever, Dr. Darwin applied a cupping-glaſs on the ear with good effect, as deſcribed in Phil. Tranſ. Vol. LXIV. p. 348. Oil, ether, laudanum, dropped into the ears. Errhines. Electricity.

If ether when dropped into the ears be not very pure, it is liable to give pain; it has otherwiſe the property both of diſſolving the ear-wax, and of ſtimulating torpid parts into their accuſtomed activity, as is known from its relieving pains from inactivity of the pained part, as tooth-ach and head-ach. If unrectified ether be diſtilled from the oxyde of manganeſe, the oxygen diſengaged from the manganeſe is aſſerted to convert the ſulphurous into ſulphuric acid, which is then not diſpoſed to riſe in diſtillation. Journal de Phyſique, April, 1798. And that this is the great ſecret

of

of procuring pure ether, and it will then give no pain on being dropped into the ear. See Art. II. 2. 3.

Deafneſs is believed ſometimes to ariſe from obſtruction of the Euſtachian tubes, which communicate from the fauces to the internal ear behind the tympanum; if this obſtruction be ſlight, as by inſpiſſated mucus, it has been propoſed to inject the Euſtachian tubes; and it is ſaid, that if the deaf perſon frequently has recourſe to the ſimple action of ſhutting his mouth and of cloſing his noſtrils by pinching them together with his finger and thumb, and then forcibly endeavours to preſs the breath through his noſe, that air will paſs into the internal ear through the Euſtachian tubes, condenſing that air which exiſts behind the tympanum; which the patient will himſelf be ſenſible of, by a ſenſation of ſound in his ears. And that this has relieved many.

Where an eruption occurs in the ear, followed by a dry ſcale or ſcab at the bottom of the meatus auditorius, a ſolution of corroſive ſublimate of mercury, hydrargyrus muriatus, about one grain to an ounce of water, dropped into the ear, frequently has been uſed with advantage by Dr. Darwin of Shrewſbury. See Claſs IV. 2. 1. 15.

7. *Olfactus imminutus.* Inactivity of the ſenſe of ſmell. From our habits of truſting to the art of cookery, and not examining our food by the

ſmell as other animals do, our ſenſe of ſmell is leſs perfect than theirs. See Sect. XVI. 5. Claſs IV. 2. 1. 16.

M. M. Mild errhines.

8. *Guſtus imminutus.* Want of taſte is very common in fevers, owing frequently to the dryneſs or ſcurf of the tongue, or external organ of that ſenſe, rather than to any injury of the nerves of taſte. See Claſs I. 1. 3. 1. IV. 2. 1. 16.

M. M. Warm ſubacid liquids taken frequently.

9. *Tactus imminutus.* Numbneſs is frequently complained of in fevers, and in epilepſy, and the touch is ſometimes impaired by the dryneſs of the cuticle of the fingers. See Claſs IV. 2. 1. 16.

When the ſenſe of touch is impaired by the compreſſion of the nerve, as in ſitting long with one thigh croſſed over the other, the limb appears larger, when we touch it with our hands, which is to be aſcribed to the indiſtinctneſs of the ſenſation of touch, and may be explained in the ſame manner as the apparent largeneſs of objects ſeen through a miſt. In this laſt caſe the minute parts of an object, as ſuppoſe of a diſtant boy, are ſeen leſs diſtinctly, and therefore we inſtantly conceive them to be further from the eye, and in conſequence that the whole ſubtends a larger angle, and thus we believe the boy to be a man. So when any one's fingers are preſſed on a benumbed

limb, the ſenſation produced is leſs than it ſhould be, judging from viſible circumſtances; we therefore conceive, that ſomething intervened between the object and the ſenſe, for it is felt as if a blanket was put between them; and that not being viſibly the caſe, we judge that the limb is ſwelled.

The ſenſe of touch is alſo liable to be deceived from the acquired habits of one part of it acting in the vicinity of another part of it. Thus if the middle finger be croſſed over either of the fingers next to it, and a nut be felt by the two ends of the fingers ſo croſſed at the ſame time, the nut appears as if it was two nuts. And laſtly, the ſenſe of touch is liable to be deceived by preconceived ideas; which we believe to be excited by external objects, even when we are awake. It has happened to me more than once, and I ſuppoſe to moſt others, to have put my hands into an empty baſon, ſtanding in an obſcure corner of a room, to waſh them, which I believed to contain cold water, and have inſtantly perceived a ſenſation of warmth, contrary to that which I expected to have felt.

In ſome paralytic affections, and in cold fits of ague, the ſenſation of touch has been much impaired, and yet that of heat has remained. See Sect. XIV. 6.

M. M. Friction alone, or with camphorated oil, warm bath. Ether. Volatile alcali and water. Internally, ſpice, ſalt. Incitantia. Secernentia.

10. *Stupor.* The ſtupor, which occurs in fevers with debility, is generally eſteemed a favourable ſymptom; which may ariſe from the leſs expenditure of ſenſorial power already exiſting in the brain and nerves, as mentioned in ſpecies 6 of this genus. But if we ſuppoſe, that there is a continued production of ſenſorial power, or an accumulation of it in the torpid parts of the ſyſtem, which is not improbable, becauſe ſuch a production of it continues during ſleep, to which ſtupor is much allied, there is ſtill further reaſon for believing it to be a favourable ſymptom in inirritable fevers; and that much injury is often done by bliſters and other powerful ſtimuli to remove the ſtupor. See Sect. XII. 7. 8. and XXXIII. 1. 4.

Dr. Blane, in his Croonian Lecture on muſcular motion, for 1788, among many other ingenious obſervations and deductions, relates a curious experiment on ſalmon, and other fiſh, and which he repeated upon eels with ſimilar event.

"If a fiſh, immediately upon being taken out of the water, is ſtunned by a violent blow on the head, or by having the head cruſhed, the irritability and ſweetneſs of the muſcles will be preſerved much longer, than if it had been allowed to die with the organs of ſenſe entire. This is ſo well known to fiſhermen, that they put it in practice, in order to make them longer ſuſceptible of the operation called *crimping*. A ſalmon is one of the fiſh leaſt tenacious of life, inſomuch, that it

will

will lofe all figns of life in lefs than half an hour after it is taken out of the water, if fuffered to die without any farther injury; but if, immediately after being caught, it receives a violent blow on the head, the mufcles will fhew vifible irritability for more than twelve hours afterwards."

Dr. Blane afterwards well remarks, that, "in thofe diforders in which the exercife of the fenfes is in a great meafure deftroyed, or fufpended, as in the hydrocephalus, and apoplectic palfy, it happens, not uncommonly, that the appetite and digeftion are better than in health."

ORDO III.

Retrograde irritative Motions.

GENUS I.

Of the Alimentary Canal.

THE retrograde motions of our ſyſtem originate either from defect of ſtimulus, or from defect of irritability. Thus ſickneſs is often induced by hunger, which is a want of ſtimulus; and from ipecacuanha, in which laſt caſe it would ſeem, that the ſickneſs was induced after the violence of the ſtimulus was abated, and the conſequent torpor had ſucceeded. Hence ſpice, opium, or food, relieves ſickneſs.

The globus hyſtericus, ſalivation, diabetes, and other inverſions of motion attending hyſteric paroxyſms, ſeem to depend on the want of irritability of thoſe parts of the body, becauſe they are attended with cold extremities, and general debility, and are relieved by wine, opium, ſteel, and fleſh diet; that is, by any additional ſtimulus.

When the longitudinal muſcles are fatigued by long action, or are habitually weaker than natural, the antagoniſt muſcles replace the limb by ſtretching it in a contrary direction; and as theſe muſcles have had their actions aſſociated in ſynchronous tribes, their actions ceaſe together. But as the hollow muſcles propel the fluids, which they contain,

tain, by motions aſſociated in trains; when one ring is fatigued from its too great debility, and brought into retrograde action; the next ring, and the next, from its aſſociation in train falls into retrograde action. Which continue ſo long as they are excited to act, like the tremors of the hands of infirm people, ſo long as they endeavour to act. Now as theſe hollow muſcles are perpetually ſtimulated, theſe retrograde actions do not ceaſe as the tremors of the longitudinal muſcles, which are generally excited only by volition. Whence the retrograde motions of hollow muſcles depend on two circumſtances, in which they differ from the longitudinal muſcles, namely, their motions being aſſociated in trains, and their being ſubject to perpetual ſtimulus. For further elucidation of the cauſe of this curious ſource of diſeaſes, ſee Sect. XXIX. 11. 5.

The fluids diſgorged by the retrograde motions of the various vaſcular muſcles may be diſtinguiſhed, 1. From thoſe, which are produced by ſecretion, by their not being attended by increaſe of heat, which always accompanies increaſed ſecretion. 2. They may be diſtinguiſhed from thoſe fluids, which are the conſequence of deficient abſorption, by their not poſſeſſing the ſaline acrimony, which thoſe fluids poſſeſs; which inflames the ſkin or other membranes on which they fall; and which have a ſaline taſte to the tongue. 3. They may be diſtinguiſhed from thoſe fluids,

which are the consequence both of increased secretion and absorption, as these are attended with increase of warmth, and are inspissated by the abstraction of their aqueous parts. 4. Where chyle, or milk, is found in the feces or urine, or when other fluids, as matter, are translated from one part of the system to another, they have been the product of retrograde action of lymphatic or other canals. As explained in Sect. XXIX. 8.

SPECIES.

1. *Ruminatio.* In the rumination of horned cattle the retrograde motions of the œsophagus are visible to the eye, as they bring up the softened grass from their first stomach. The vegetable aliment in the first stomach of cattle, which have filled themselves too full of young clover, is liable to run into fermentation, and distend the stomach, so as to preclude its exit, and frequently to destroy the animal. To discharge this air the farmers frequently make an opening into the stomach of the animal with success. I was informed, I believe by the late Dr. Whytt of Edinburgh, that of twenty cows in this situation two had died, and that he directed a pint of gin or whisky, mixed with an equal quantity of water, to be given to the other eighteen; all of which eructed immense quantities of air, and recovered.

There are histories of ruminating men, and who have

have taken pleaſure in the act of chewing their food a ſecond time. Philoſ. Tranſact.

2. *Ructus.* Eructation. An inverted motion of the ſtomach excluding through its upper valve an elaſtic vapour, generated by the fermentation of the aliment; which proceeds ſo haſtily, that the digeſtive power does not ſubdue it. This is ſometimes acquired by habit, ſo that ſome people can eruct when they pleaſe, and as long as they pleaſe; and there is gas enough generated to ſupply them for this purpoſe; for by Dr. Hales's experiments, an apple, and many other kinds of aliment, give up above ſix hundred times their own bulk of an elaſtic gas in fermentation. When people voluntarily eject the fixable air from their ſtomachs, the fermentation of the aliment proceeds the faſter; for ſtopping the veſſels, which contain new wines, retards their fermentation, and opening them again accelerates it; hence where the digeſtion is impaired, and the ſtomach ſomewhat diſtended with air, it is better to reſtrain than to encourage eructations, except the quantity makes it neceſſary. When wine is confined in bottles the fermentation ſtill proceeds ſlowly even for years, till all the ſugar is converted into ſpirit; but in the proceſs of digeſtion, the ſaccharine part is abſorbed in the form of chyle by the bibulous mouths of the numerous lacteals, before it has time to run into the vinous fermentation.

3. *Apepſia.*

3. *Apepsia.* Indigestion. Water-qualm. A few mouthfuls of the aliment are rejected at a time for some hours after meals. When the aliment has had time to ferment, and become acid, it produces cardialgia, or heart-burn. This disease is perhaps generally left after a slight inflammation of the stomach, called a surfeit, occasioned by drinking cold liquors, or eating cold vegetables, when heated with exercise. This inflammation of the stomach is frequently, I believe, at its commencement removed by a critical eruption on the face, which differs in its appearance as well as in its cause from the gutta rosea of drunkards, as the skin round the base of each eruption is less inflamed. See Class II. 1. 4. 6. This disease differs from Cardialgia, Class I. 2. 4. 5. in its being not uniformly attended with pain of the cardia ventriculi, and from its retrograde motions of a part of the stomach about the upper orifice of it. In the same manner as hysteria differs from hypochondriasis; the one consisting in the weakness and indigestion of the same portions of the alimentary canal, and the other in the inverted motions of some parts of it. This apepsia or water-qualm continues many years, even to old age; Mr. G—— of Lichfield suffered under this disease from his infancy; and, as he grew old, found relief only from repeated doses of opium.

M. M. A blister, rhubarb, a grain of opium twice a day. Soap, iron-powder. Tin-powder.

4. *Vomitus.*

4. *Vomitus.* An inverted order of the motions of the ſtomach and œſophagus with their abſorbent veſſels, by which their contents are evacuated. In the act of vomiting leſs ſenſorial power is employed than in the uſual periſtaltic motion of the ſtomach, as explained in Sect. XXXV. 1. 3. Whence after the operation of an emetic the digeſtion becomes ſtronger by an accumulation of ſenſorial power during its decreaſed action. This decreaſed action of the ſtomach may be either induced by want of ſtimulus, as in the ſickneſs which attends hunger; or it may be induced by temporary want of irritability, as in cold fits of fever; or from habitual want of irritability, as the vomiting of enfeebled drunkards. Or laſtly, by having been previouſly too violently ſtimulated by an emetic drug, as by ipecacuanha.

M. M. A bliſter. An emetic. Opium. Warmth of a bed, covering the face for a while with the bed-clothes. Crude mercury. A poultice with opium or theriaca externally.

5. *Cholera.* When not only the ſtomach, as in the laſt article, but alſo the duodenum, and ileum, as low as the valve of the colon, have their motions inverted; and great quantities of bile are thus poured into the ſtomach; while at the ſame time ſome branches of the lacteals become retrograde, and diſgorge their contents into the upper part of the alimentary canal; and other branches of them diſ-

gorge

gorge their contents into the lower parts of it beneath the valve of the colon; a vomiting and purging commence together, which is called cholera, as it is ſuppoſed to have its origin from increaſed ſecretion of bile; but I ſuppoſe more frequently ariſes from putrid food, or poiſonous drugs, as in the caſe narrated in Sect. XXV. 13. where other circumſtances of this diſeaſe are explained. See Claſs II. 1. 2. 11.

The cramps of the legs, which are liable to attend cholera, are explained in Claſs III. 1. 1. 15.

6. *Ileus.* Conſiſts in the inverted motions of the whole inteſtinal canal, from the mouth to the anus; and of the lacteals and abſorbents which ariſe from it. In this pitiable diſeaſe, through the valve of the colon, through the pylorus, the cardia, and the pharynx, are ejected, firſt, the contents of the ſtomach and inteſtines, with the excrement and even clyſters themſelves; then the fluid from the lacteals, which is now poured into the inteſtines by their retrograde motions, is thrown up by the mouth; and, laſtly, every fluid, which is abſorbed by the other lymphatic branches, from the cellular membrane, the ſkin, the bladder, and all other cavities of the body; and which is then poured into the ſtomach or inteſtines by the retrograde motions of the lacteals; all which ſupply that amazing quantity of fluid, which is in this diſeaſe continually ejected

ejected by vomiting. See Sect. XXV. 15. for a further explanation of this diseafe.

M. M. Copious venefection. Twenty grains of calomel in fmall pills, or one grain of aloe every hour till ftools are procured. Blifters. Warm bath. Crude mercury. Clyfter of ice-water, Smear the fkin all over with greafe, as mentioned in Sect. XXV. 15.

As this malady is occafioned fometimes by an introfufception of a part of the inteftine into another part of it, efpecially in children, could holding them up by their heels for a fecond or two of time be of fervice after venefection? Or the exhibition of crude quickfilver two ounces every half hour, till a pound is taken, be particularly ferviceable in this circumftance? Or could half a pound, or a pound, of crude mercury be injected as a clyfter, the patient being elevated by the knees and thighs fo as to have his head and fhoulders much lower than his bottom, or even for a fhort time held up by the heels? Could this alfo be of advantage in ftrangulated hernia?

Where there exifts an introfufception of the inteftine, or in obftinate coftivenefs, perhaps a forcing pump, fuch as gardeners employ to water their trees, might be ufed with advantage, by driving warm water forcibly up the rectum, as is mentioned by Mr. Adair; and was ufed by Dettaen in experiments on dogs, who found the valve of the colon did not prevent warm water being pufhed along the

the whole courſe of the alimentary canal by a forcing ſyringe. This is well worthy trial, as well as the quickſilver introduced by the anus in inflammations of the inteſtines, where no paſſage downwards can be procured.

Where an introſuſception of the inteſtine exiſts, as is believed frequently to occur in thoſe inflammations of the bowels of children, which are not owing to ſome indigeſtible material, as to plum ſtones or cherry ſtones, it is probable that a quantity of air alone, or of the ſmoke of tobacco, might be injected ſo forcibly as to dilate, and in conſequence to paſs the valve of the colon; and might puſh into its place the ſtrangulated duplicature of the inteſtine. Air might be thus injected from a large blown bladder by means of a clyſter-pipe covered with ſoft leather moiſtened with oil or mucilage, or by means of bellows, or the common apparatus for injecting the ſmoke of tobacco, or by a ſyringe uſed for condenſing air in philoſophical experiments. I have ſeen ſchool-boys blow air through a graſs-ſtem into the bowels of frogs, ſo as to prevent their diving, without injuring them.

Where the diſeaſe is owing to ſtrangulated hernia, the part ſhould be ſprinkled with cold water, or iced water, or ſalt and water recently mixed, or moiſtened with ether. In caſes of ſtrangulated hernia, could acupuncture, or puncture with a capillary trocar, be uſed with ſafety and advantage to give exit to air contained in the ſtrangulated bowel?

Or

Or to ſtimulate it into action? It is not uncommon for baſhful men to conceal their being afflicted with a ſmall hernia, which is the cauſe of their death; this circumſtance ſhould therefore always be inquired into. Is the ſeat or cauſe of the ileus always below the valve of the colon, and that of the cholera above it? See Claſs II. 1. 2. 11.

7. *Globus hyſtericus.* Hyſteric ſuffocation is the perception of a globe rolling round in the abdomen, and aſcending to the ſtomach and throat, and there inducing ſtrangulation. It conſiſts of an ineffectual inverſion of the motions of the œſophagus, and other parts of the alimentary canal; nothing being rejected from the ſtomach.

M. M. Tincture of caſtor, tinct. of opium, of each 15 drops. See Hyſteria, Claſs I. 3. 1. 9.

8. *Vomendi conamen inane.* An ineffectual effort to vomit. It frequently occurs, when the ſtomach is empty, and in ſome caſes continues many hours; but as the lymphatics of the ſtomach are not inverted at the ſame time, there is no ſupply of materials to be ejected; it is ſometimes a ſymptom of hyſteria, but more frequently attends irregular epilepſies or reveries; which however may be diſtinguiſhed by their violence of exertion, for the exertions of hyſteric motions are feeble, as they are cauſed by debility; but thoſe of epilepſies, as they are uſed to relieve pain, are of the moſt violent kind;

kind; insomuch that those who have once seen these ineffectual efforts to vomit in some epilepsies, can never again mistake them for symptoms of hysteria. See a case in Sect. XIX. 2.

M. M. Blister. Opium. Crude mercury.

9. *Borborigmus.* A gurgling of the bowels proceeds from a partial invertion of the peristaltic motions of them, by which the gas is brought into a superior part of the bowel, and bubbles through the descending fluid, like air rushing into a bottle as the water is poured out of it. This is sometimes a distressing symptom of the debility of the bowels joined with a partial inversion of their motions. I attended a young lady about sixteen, who was in other respects feeble, whose bowels almost incessantly made a gurgling noise so loud as to be heard at a considerable distance, and to attract the notice of all who were near her. As this noise never ceased a minute together for many hours in a day, it could not be produced by the uniform descent of water, and ascent of air through it, but there must have been alternately a retrograde movement of a part of the bowel, which must again have pushed up the water above the air; or which might raise a part of the bowel, in which the fluid was lodged, alternately above and below another portion of it; which might readily happen in some of the curvatures of the smaller intestines, the air in which might

might be moved backward and forward like the air-bubble in a glafs-level.

M. M. Effential oil. Ten corns of black pepper fwallowed whole after dinner, that its effect might be flower and more permanent; a fmall pipe occafionally introduced into the rectum to facilitate the efcape of the air. Crude mercury. See Clafs I. 2. 4. 9.

10. *Hyfteria.* The three laft articles, together with the lymphatic diabetes, are the moft common fymptoms of the hyfteric difeafe; to which fometimes is added the lymphatic falivation, and fits of fyncope, or convulfion, with palpitation of the heart (which probably confifts of retrograde motions of it), and a great fear of dying. Which laft circumftance diftinguifhes thefe convulfions from the epileptic ones with greater certainty than any other fingle fymptom. The pale copious urine, cold fkin, palpitation, and trembling, are the fymptoms excited by great fear. Hence in hyfteric difeafes, when thefe fymptoms occur, the fear, which has been ufually affociated with them, recurs at the fame time, as in hypochondriafis, Clafs I. 2. 4. 10. See Sect. XVI. 8. 1.

The convulfions which fometimes attend the hyfteric difeafe, are exertions to relieve pain, either of fome torpid, or of fome retrograde organ; and in this refpect they refemble epileptic convulfions, except that they are feldom fo violent as entirely

to produce insensibility to external stimuli; for these weaker pains cease before the total exhaustion of sensorial power is produced, and the patient sinks into imperfect syncope; whereas the true epilepsy generally terminates in temporary apoplexy, with perfect insensibility to external objects. These convulsions are less to be dreaded than the epileptic ones, as they do not originate from so permanent a cause.

The great discharge of pale urine in this disease is owing to the inverted motions of the lymphatics, which arise about the neck of the bladder, as described in Sect. XXIX. 4. 5. And the lymphatic salivation arises from the inverted motions of the salivary lymphatics.

Hysteria is distinguished from hypochondriasis, as in the latter there are no retrograde motions of the alimentary canal, but simply a debility or inirritability of it, with distention and flatulency. It is distinguished from apepsia and cardialgia by there being nothing ejected from the stomach by the retrograde motions of it, or of the œsophagus.

M. M. Opium. Camphor. Assafœtida. Castor, with sinapisms externally; to which must be added a clyster of cold water, or iced water; which, according to Mons. Pomme, relieves these hysteric symptoms instantaneously like a charm; which it may effect by checking the inverted motions of the intestinal canal by the torpor occasioned by cold; or one end of the intestinal canal may be-

I come

come ſtrengthened, and regain its periſtaltic motion by reverſe ſympathy, when the other end is rendered torpid by ice-water. (Pomme des Affections Vaporeuſes, p. 25.) Theſe remove the preſent ſymptoms; and bark, ſteel, exerciſe, coldiſh bath, prevent their returns. See Art. VI. 2. 1.

11. *Hydrophobia.* Dread of water occaſioned by the bite of a mad-dog, is a violent inverſion of the motions of the œſophagus on the contact or even approach of water or other fluids. The pharynx ſeems to have acquired the ſenſibility of the larynx in this diſeaſe, and is as impatient to reject any fluid which gets into it. Is not the cardia ventriculi the ſeat of this diſeaſe? As in cardialgia the pain is often felt in the pharynx, when the acid material ſtimulates the other end of the canal, which terminates in the ſtomach. As this fatal diſeaſe reſembles tetanus, or locked jaw, in its tendency to convulſion from a diſtant wound, and affects ſome other parts by aſſociation, it is treated of in Claſs III. 1. 1. 15. and IV. 2. 1. 7.

M. M. I ſhould recommend the trial of one grain and a half of corroſive ſublimate of mercury, hydrargyrus muriatus, diſſolved in half an ounce of rectified ſpirit of wine, to be given undiluted, if poſſible, as deſcribed in Claſs II. 1. 5. 1. and to be repeated according to its operation.

ORDO III.

Retrograde Irritative Motions.

GENUS II.

Of the Abſorbent Syſtem.

SPECIES.

1. *Catarrhus lymphaticus.* Lymphatic catarrh. A periodical defluxion of a thin fluid from the noſtrils, for a few hours, occaſioned by the retrograde motions of their lymphatics; which may probably be ſupplied with fluid by the increaſed abſorption of ſome other lymphatic branches in their vicinity. It is diſtinguiſhed from that mucous diſcharge, which happens in froſty weather from decreaſed abſorption, becauſe it is leſs ſalt to the taſte; and from an increaſed ſecretion of mucus, becauſe it is neither ſo viſcid, nor is attended with heat of the part. This complaint is liable to recur at diurnal periods, like an intermittent fever, for weeks and months together, with great ſneezing and very copious diſcharge for an hour or two.

I have ſeen two of theſe caſes, both of which occurred in delicate women, and ſeemed an appendage to other hyſteric ſymptoms; whence I concluded, that the diſcharge was occaſioned by the inverted motions of the lymphatics of the noſtrils,

like the pale urine in hyfteric cafes; and that they might receive this fluid from fome other branches of lymphatic veffels opening into the frontal or maxillary cavities in their vicinity.

Could fuch a difcharge be produced by ftrong errhines, and excite an abforption of the congef-tion of lymph in the dropfy of the brain?

2. *Salivatio lymphatica.* Lymphatic falivation. A copious expuition of a pellucid infipid fluid, oc-cafioned by the retrograde motions of the lym-phatics of the mouth. It is fometimes periodical, and often attends the hyfteric difeafe, and nervous fevers; but is not accompanied with a faline tafte, or with heat of the mouth, or naufea.

3. *Naufea humida.* Moift naufea confifts in a difcharge of fluid, owing to the retrograde motions of the lymphatics about the fauces, without increafe of heat, or faline tafte, together with fome retro-grade motions of the fauces or pharynx; along with this naufea a ficknefs generally precedes the act of vomiting; which may confift of a fimilar difcharge of mucus or chyle into the ftomach by the retrograde motions of the lymphatics or lac-teals, which open into it. See Clafs I. 2. 4. 3. and I. 2. 4. 4.

M. M. Subacid liquids. Wine. Opium. A blifter.

4. *Diarrhœa lymphatica.* Lymphatic diarrhœa. A quantity of mucus and lymph are poured into the inteſtines by the inverted motions of the inteſtinal lymphatics. The feces are leſs fetid and more liquid; and it ſometimes portends the commencement of a diabetes, or dropſy, or their temporary relief. This lymphatic diarrhœa ſometimes becomes chronical, in which the atmoſpheric moiſture, abſorbed by the cutaneous aud pulmonary lymphatics, is poured into the inteſtines by the retrograde motions of the lacteals. See Section XXIX. 4. 6. where ſome caſes of this kind are related.

5. *Diarrhœa chylifera, cœliaca.* Chyliferous diarrhœa. The chyle drunk up by the lacteals of the upper inteſtines is poured into the lower ones by the retrograde motions of their lacteals, and appears in the dejections. This circumſtance occurs at the beginning of diarrhœa crapuloſa, where the patient has taken and digeſted more aliment than the ſyſtem can conveniently receive, and thus eliminates a part of it; as appears when there is curdled chyle in ſome of the dejections. See Sect. XXIX. 4. 7. It differs from the lymphatic diarrhœa, as the chyliferous diabetes differs from the aqueous and mucaginous diabetes.

6. *Diabetes.* By the retrograde motions of the urinary lymphatics, an immenſe quantity of fluid

is

is poured into the bladder. It is either termed chyliferous, or aqueous, or mucaginous, from the nature of the fluid brought into the bladder; and is either a temporary diſeaſe, as in hyſteric women, in the beginning of intoxication, in worm caſes, or in thoſe expoſed to cold damp air, or to great fear, or anxiety, or in the commencement of ſome dropſies; or it becomes chronical.

When the urinary lymphatics invert their motions, and pour their refluent contents into the bladder, ſome other branch of the abſorbent ſyſtem acts with greater energy to ſupply this fluid. If it is the inteſtinal branch, the chyliferous diabetes is produced: if it is the cutaneous or pulmonary branch, the aqueous diabetes is produced: and if the cellular or cyſtic branches, the mucaginous diabetes. In the two laſt the urine is pellucid, and contains no ſugar.

In dropſies the fluid is ſometimes abſorbed, and poured into the bladder by the retrograde motions of the urinary lymphatics, as during the exhibition of digitalis. In the beginning of the dropſies of infirm gouty patients, I have frequently obſerved, that they make a large quantity of water for one night, which relieves them for ſeveral days. In theſe caſes the patient previouſly feels a fulneſs about the præcordia, with difficult reſpiration, and ſymptoms ſimilar to thoſe of hyſteria. Perhaps a previous defect of abſorption takes place in ſome part of the body in thoſe hyſteric caſes, which are

relieved by a copious discharge of pale urine. See Diabetes explained at large, Section XXIX. 4.

A discharge of blood sometimes attends the diabetes, which was occasionally a symptom of that disease in Mr. Brindley, the great navigable canal maker in this country. Which may be accounted for by the communication of a lymphatic branch with the gastric branch of the vena portarum, as discovered by J. F. Meckel. See Section XXVII. 2.

M. M. Alum. Earth of alum. Cantharides Calomel. Bark. Steel. Resin. Opium. See Sect. XXIX. 4.

Since the publication of the first edition of this work, I have seen two patients affected with diabetes, who were both of them between sixty and seventy years old, and had formerly lived rather freely, though very temperately latterly for many years. The water they made had not been accurately measured or evaporated; but one of them observed, that his terrier bitch lapped his urine in large quantities, and preferred it much to common water; whence he concluded, it must contain some nutritious matter.

They both complained of thirst, and had drunk two or three times as much as usual, during the time they had been affected with the diabetes; which was about four months in one, and about three in the other. As I esteemed these cases to be owing to the patients swallowing more fluid than could

could be ſo haſtily taken into the circulation, and that therefore a part of it was conveyed to the bladder by the retrograde action of the lymphatics, as in the beginning of intoxication; I prevailed on them to drink no more than their uſual quantity, or leſs; and both theſe mild caſes of diabetes ceaſed immediately by this ſimple treatment of them.

A ſimilar event ſeems to have exiſted in the two caſes of diabetes firſt publiſhed by Dr. Rollo; on thoſe days the patients drank but little, the quantity of urine was not more than natural. Both from theſe caſes, and from others related by Dr. Rollo, it appears, that when the patient lived on animal food, leſs ſaccharine matter was detected in the urine, and alſo that the quantity of the urine abated; the former of theſe circumſtances is readily accounted for, as vegetable materials are probably more copiouſly convertible into ſugar, either chemically or by the power of digeſtion, than animal materials; and the latter ſeems probably owing to the patients drinking leſs in quantity, when they were reſtrained from beer and milk, and were allowed only broth in their ſtead.

In the caſe from Liverpool, publiſhed by Dr. Rollo, the patient did not weigh heavier after ſitting ten minutes in a bath of 110 degrees of heat; which ſhews that no part of the diabetic urine was owing to increaſed cutaneous abſorption, and that this diſeaſe was not the aqueous but the chyliferous diabetes;

diabetes; and I ſuppoſe the patient's weighing heavier or not after uſing a warm bath may depend on the quantity of fluid previouſly taken by the mouth; as the ſkin may thence be either in an abſorbent or exhalent ſtate, and owing to a greater or leſs degree of heat, which may render the quantity of perſpiration in the bath greater than the quantity abſorbed. See Sect. XXIX. 4. 5.

7. *Sudor lymphaticus.* Profuſe ſweats from the inverted motions of the cutaneous lymphatics, as in ſome fainting fits, and at the approach of death; and as perhaps in the ſudor anglicanus. See Sect. XXIX. 5. Theſe ſweats are glutinous to the touch, and without increaſed heat of the ſkin; if the part is not covered, the ſkin becomes cold from the evaporation of the fluid. Theſe ſweats without heat ſometimes occur in the act of vomiting, as in Sect. XXV. 9. and are probably the cauſe of the cold ſweaty hands of ſome people. As mentioned in Sect. XXIX. 4. 9. in the caſe of R. Davis, which he cured by frequent application of lime. Though it is poſſible, that cold ſweaty hands may alſo ariſe from the want of due abſorption of the perſpirable matter effuſed on them, and that the coldneſs may be owing to the greater evaporation in conſequence.

The acid ſweats deſcribed by Dr. Dobſon, which he obſerved in a diabetic patient, and aſcribes to the chyle effuſed on the ſkin, muſt be aſcribed to the

the retrograde action of the cutaneous lymphatics. See Sect. XXIX. 6.

8. *Sudor asthmaticus.* The cold sweats in this disease only cover the head, arms, and breast, and are frequently exceedingly profuse. These sweats are owing to the inverted motions of the cutaneous lymphatics of the upper part of the body, and at the same time the increased absorption of the pulmonary absorbents: hence these sweats when profuse relieve the present fit of asthma. There is no other way to account for sweats appearing on the upper parts of the body only, but by the fluid having been absorbed by the lymphatic branch of the lungs, and effused on the skin by the retrograde movements of the cutaneous lymphatics; which join those of the lungs before they enter into the venous circulation. For if they were occasioned, as generally supposed, by the difficulty of the circulation of the blood through the lungs, the whole skin must be equally affected, both of the upper and lower parts of the body; for whatever could obstruct the circulation in the upper part of the venous system, must equally obstruct it in the lower part of it. See Sect. XXIX. 6. In the convulsive asthma these sweats do not occur; hence they may be distinguished; and might be called the hydropic asthma, and the epileptic asthma.

9. *Translatio*

9. *Tranſlatio puris.* Tranſlation of matter from one part of the ſyſtem to another can only be explained from its being abſorbed by one branch of the lymphatic ſyſtem, and depoſited in a diſtant part by the retrograde motions of another branch; as mentioned Sect. XXIX. 7. 1. It is curious, that theſe tranſlations of matter are attended generally, I believe, with cold fits; for leſs heat is produced during the retrograde action of this part of the ſyſtem, as no ſecretion in the lymphatic glands of the affected branches can exiſt at the ſame time. Do any ineffectual retrograde motions occaſion the cold fits of agues? The time when the gout of the liver ceaſes, and the gout in the foot commences, is attended with a cold fit, as I have obſerved in two inſtances, which is difficult to explain, without ſuppoſing the new veſſels, or the matter produced on the inflamed liver, to be abſorbed, and either eliminated by ſome retrograde motion, or carried to the newly inflamed part? See Claſs IV. 1. 2. 15.

10. *Tranſlatio lactis.* Tranſlation of milk to the bowels in puerperal fevers can only be explained by the milk being abſorbed by the pectoral branch of lymphatics, and carried to the bowels by the retrograde motions of the inteſtinal lymphatics or lacteals. See many inſtances of this in Sect. XXIX. 7. 4.

11. *Tranſlatio*

11. *Tranſlatio urinæ.* Tranſlation of urine. There is a curious caſe related in the Tranſactions of the College of Phyſicians at Philadelphia, Vol. I. p. 96. of a girl, who labouring under an iſchuria vomited her urine for many months; which could not be diſtinguiſhed from that which was at other times drawn off by the catheter. After having taken much opium, ſhe ſeems at length to have formed gravel, ſome of which was frequently brought up by vomiting. Dr. Senter aſcribes this to the retrograde motions of the lymphatics of the ſtomach, and the increaſed ones of thoſe of the bladder, and refers to thoſe of Sect. XXIX. of this work; which ſection was firſt publiſhed in 1780; and to Macquer's Dictionary of Chemiſtry, Art. Urine.

The patient above deſcribed ſometimes had a diſcharge of urine by the navel, and at other times by the rectum, and ſometimes by urinous ſweats.

ORDO

ORDO III.

Retrograde Irritative Motions.

GENUS III.

Of the Sanguiferous System.

SPECIES.

1. *Capillarium motus retrogressus.* In microscopic experiments it is usual to see globules of blood regurgitate from the capillary vessels again and again, before they pass through them; and not only the mouths of the veins, which arise from these capillaries, are frequently seen by microscopes to regurgitate some particles of blood during the struggles of the animal; but a retrograde motion of the blood in the veins of these animals, from the very heart to the extremities of the limbs, is observable by intervals during the distresses of the dying creature. Haller, Elem. Phys. T. 1. p. 216. See Section XXIX. 3. 8.

2. *Palpitatio cordis.* May not the ineffectual and weak unequal motions of the heart in hysteric cases be ascribed to the retrograde motions of it, which continue for a short time, or terminate in syncope? See Class IV. 3. 1. 6.

3. *Anhelatio ſpaſmodica.* In ſome aſthmas may not the difficulty of reſpiration ariſe from the inverted action of the finer branches of the bronchia, or of the pulmonary artery or vein, like thoſe of the capillaries above deſcribed in No. 1. of this genus?

The Orders and Genera of the Second Clafs of Difeafes.

CLASS II.

DISEASES OF SENSATION.

ORDO I.

Increafed Senfation.

GENERA.

1. With increafed action of the mufcles.
2. With the production of new veffels by internal membranes or glands with fever.
3. With the production of new veffels by external membranes or glands with fever.
4. With the production of new veffels by internal membranes or glands without fever.
5. With the production of new veffels by external membranes or glands without fever.
6. With fever confequent to the production of new veffels or fluids.
7. With increafed actions of the organs of fenfe.

ORDO II.

Decreafed Senfation.

GENERA.

1. With decreafed actions of the general fyftem.
2. With decreafed actions of particular organs.

ORDO

ORDO III.

Retrograde Senſitive Motions.

GENERA.

1. Of the arterial ſyſtem.
2. Of the abſorbent ſyſtem.
3. Of the excretory ducts.

The Orders, Genera, and Species, of the Second Claſs of Diſeaſes.

CLASS II.

DISEASES OF SENSATION.

ORDO I.

Increaſed Senſation.

GENUS I.

With increaſed Action of the Muſcles.

SPECIES.

1. *Deglutitio.*	Deglutition.
2. *Reſpiratio.*	Reſpiration.
3. *Sternutatio.*	Sneezing.
4. *Anhelitus.*	Panting.
5. *Tuſſis ebriorum.*	Cough of inebriates.
6. *Singultus.*	Hiccough.
7. *Crapula ventriculi.*	Indigeſtion.
8. *Aſthma humorale.*	Humoral aſthma.
9. *Nictitatio ſenſitiva.*	Winking from pain.
10. *Oſcitatio et pandiculatio.*	Yawning and ſtretching.
11. *Teneſmus.*	Teneſmus.
12. *Stranguria.*	Strangury.
13. *Parturitio.*	Parturition.

GENUS

GENUS II.

With the Production of new Vessels by internal Membranes or Glands, with Fever.

SPECIES.

1. *Febris sensitiva irritata.*	Sensitive irritated fever.
2. *Ophthalmia interna.*	Inflammation of the eye.
3. *Phrenitis.*	——— of the brain.
4. *Peripneumonia.*	——— of the lungs.
——— *trachealis.*	The croup.
5. *Pleuritis.*	Inflammation of the pleura.
6. *Diaphragmitis.*	——— of the diaphragm.
7. *Carditis.*	——— of the heart.
8. *Peritonitis.*	——— of the peritoneum.
9. *Mesenteritis.*	——— of the mesentery.
10. *Gastritis.*	——— of the stomach.
11. *Enteritis.*	——— of the bowels.
12. *Hepatitis.*	——— of the liver.
13. *Splenitis.*	——— of the spleen.

14. *Nephritis.*	Inflammation of the kidney.
15. *Cyſtitis.*	——— of the bladder.
16. *Hyſteritis.*	——— of the womb.
17. *Lumbago ſenſitiva.*	——— of the loins.
18. *Iſchias.*	——— of the pelvis.
19. *Paronychia interna.*	——— beneath the nails.

GENUS III.

With the Production of new Veſſels by external Membranes or Glands, with Fever.

SPECIES.

1. *Febris ſenſitiva inirritata.*	Senſitive inirritated fever.
2. *Eryſipelas irritatum.*	Eryſipelas, irritated.
——— *inirritatum.*	——— inirritated.
——— *ſenſitivum.*	——— ſenſitive.
3. *Tonſillitis interna.*	Angina, internal.
——— *ſuperficialis.*	——— ſuperficial.
——— *inirritata.*	——— inirritated.

4. *Parotitis*

4. *Parotitis ſuppurans.*	Mumps, ſuppurative.
——— *mutabilis.*	——— mutable.
——— *felina.*	——— of cats.
5. *Catarrhus ſenſitivus.*	Catarrh, inflammatory.
6. ——— *contagioſus.*	——— contagious.
——— *equinus et caninus.*	——— among horſes and dogs.
7. *Peripneumonia ſuperficialis.*	Superficial peripneumony.
8. *Pertuſſis.*	Chin-cough.
9. *Variola diſcreta.*	Small-pox, diſtinct.
——— *confluens.*	——— confluent.
——— *inoculata.*	——— inoculated.
10. *Rubeola irritata.*	Meaſles, irritated.
——— *inirritata.*	——— inirritated.
11. *Scarlatina mitis.*	Scarlet fever, mild.
——— *maligna.*	——— malignant.
12. *Miliaria ſudatoria.*	Miliary fever, ſudatory.
——— *irritata.*	——— irritated.
——— *inirritata.*	——— inirritated.
13. *Peſtis.*	Plague.
——— *vaccina.*	——— of horned cattle.
14. *Pemphigus.*	Bladdery fever.
15. *Varicella.*	Chicken-pox.
16. *Urticaria.*	Nettle-raſh.
17. *Aphtha ſenſitiva.*	Thruſh, ſenſitive.
——— *irritata.*	——— irritated.
——— *inirritata.*	——— inirritated.
18. *Dyſenteria.*	Bloody flux.

19. *Gastritis superficialis.*	Superficial inflam. of the stomach.
20. *Enteritis superficialis.*	——————— of the bowels.

GENUS IV.

With the Production of new Vessels by internal Membranes or Glands, without Fever.

SPECIES.

1. *Ophthalmia superficialis.*	Ophthalmy, superficial.
——— *lymphatica.*	——— lymphatic.
——— *equina.*	——— of horses.
2. *Pterigion.*	Eye-wing.
3. *Tarsitis palpebrarum.*	Red eyelids.
4. *Hordeolum.*	Stye.
5. *Paronychia superficialis.*	Whitlow.
6. *Gutta rosea hepatica.*	Pimpled face, hepatic.
——— *stomatica.*	——— stomatic.
——— *hereditaria.*	——— hereditary.
7. *Odontitis.*	Inflamed tooth.
8. *Otitis.*	——— ear.
9. *Fistula lacrymalis.*	Fistula lacrymalis.
10. *Fistula in ano.*	Fistula in ano.

11. *Hepatitis.*

11. *Hepatitis chronica.*	Chronical hepatitis.
12. *Scrofula ſuppurans.*	Suppurating ſcrofula.
13. *Scorbutus ſuppurans.*	Suppurating ſcurvy.
14. *Scirrhus ſuppurans.*	Suppurating ſcirrhus.
15. *Carcinoma.*	Cancer.
16. *Arthrocele.*	Swelling of the joints.
17. *Arthropuoſis.*	Suppuration of the joints.
18. *Caries oſſium.*	Caries of the bones.

GENUS V.

With the Production of new Veſſels by external Membranes or Glands, without Fever.

SPECIES.

1. *Gonorrhœa venerea.*	Clap.
2. *Syphilis.*	Venereal diſeaſe.
3. *Lepra.*	Leproſy.
4. *Elephantiaſis.*	Elephantiaſis.
5. *Frambœſia.*	Frambœſia.
6. *Pſora.*	Itch.
7. *Pſora ebriorum.*	Itch of drunkards.
8. *Herpes.*	Herpes.
9. *Zona ignea.*	Shingles.
10. *Annulus repens.*	Ring-worm.
11. *Tinea capitis.*	Scald-head.
12. *Cruſta lactea.*	Milk-cruſt.
13. *Trichoma.*	Plica polonica.

GENUS VI.

With Fever consequent to the Production of new Vessels or Fluids.

SPECIES.

1. *Febris sensitiva.*	Sensitive Fever.
2. —— *a pure clauso.*	Fever from concealed matter.
3. —— *a vomica.*	—— from vomica.
4. —— *ab empyemate.*	—— from empyema.
5. —— *mesenterica.*	—— mesenteric.
6. —— *a pure aerato.*	—— from aerated matter.
7. —— *a phthisi.*	—— from consumption.
8. —— *scrofulosa.*	—— scrofulous.
9. —— *ischiadica.*	—— from ischias.
10. —— *arthropuodica.*	—— from joint-evil.
11. —— *a pure contagioso.*	—— from contagious matter.
12. —— *variolosa secundaria.*	—— secondary of small-pox.
13. —— *carcinomatosa.*	—— cancerous.
14. —— *venerea.*	—— venereal.
15. —— *a sanie contagiosa.*	—— from contagious sanies.
16. —— *puerpera.*	—— puerperal.
17. *a sphacelo.*	—— from sphacelus.

GENUS

GENUS VII.

With increased Action of the Organs of Sense.

SPECIES.

1. *Delirium febrile.*	Delirium of fevers.
2. ——— *maniacale.*	——— maniacal.
3. ——— *ebrietatis.*	——— of drunkenness.
4. *Somnium.*	Dreams.
5. *Hallucinatio visûs.*	Deception of sight.
6. ——— *auditûs.*	——— of hearing.
7. *Rubor a calore.*	Blush from heat.
8. —— *jucunditatis.*	—— from joy.
9. *Priapismus amatorius.*	Amorous priapism.
10. *Distentio mamularum.*	Distention of the nipples.

ORDO II.

Decreased Sensation.

GENUS I.

With decreased Action of the general System.

SPECIES.

1. *Stultitia insensibilis.*	Folly from insensibility.
2. *Tædium vitæ.*	Irksomeness of life.
3. *Paresis sensitiva.*	Sensitive debility.

GENUS

GENUS II.

With decreased Actions of particular Organs.

SPECIES.

1. *Anorexia.*	Want of appetite.
2. *Adipsia.*	Want of thirst.
3. *Impotentia.*	Impotence.
4. *Sterilitas.*	Barrenness.
5. *Insensibilitas artuum.*	Insensibility of the limbs.
6. *Dysuria insensitiva.*	Insensibility of the bladder.
7. *Accumulatio alvina.*	Accumulation of feces.

ORDO III.

Retrograde Sensitive Motions.

GENUS I.

Of Excretory Ducts.

SPECIES.

Motus retrogressus.	Retrograde motion.
1. —— *ureterum.*	———— of the ureters.
2. —— *urethræ.*	———— of the urethra.
3. —— *ductûs choledoci.*	———— of the bile-duct.

CLASS

CLASS II.

DISEASES OF SENSATION.

ORDO I.

Increased Sensation.

GENUS I.

With increased Action of the Muscles.

THE actions belonging to this genus are those which are immediately excited by the sensations of pain or pleasure, but which are neither followed by inflammation, nor by convulsion. The former of which belong to the subsequent genera of this order, and the latter to the class of voluntary motions.

The criterion between the actions, which are the immediate consequence of painful sensation, and convulsive actions properly so called, consists in the former having a tendency to dislodge the stimulating cause, which induces the painful sensation; and the latter being exerted for the purpose of expending the sensorial power, and thus dulling or destroying the general sensation of the system. See Class III. 1.

There is a degree of heat produced in the affected part by these sensitive actions without inflammation,

flammation, but in much leſs quantity than when attended by inflammation; as in the latter there is production of new veſſels. See Sect. XXXIII. 2. 3.

Some of the ſpecies of this genus cannot properly be termed diſeaſes in their natural ſtate, but become ſo by their defect or exceſs, and are here inſerted to facilitate the explanation of the others.

SPECIES.

1. *Deglutitio.* Swallowing our food is immediately cauſed by the pleaſurable ſenſation occaſioned by its ſtimulus on the palate or fauces, and is acquired long before the nativity of the animal. Afterwards the pain of hunger previouſly produces the various voluntary exertions to procure the proper material, but the actions of maſticating and of ſwallowing it are effected by the ſenſorial power of ſenſation; which appears by their not being always controllable by the will, as when children in vain attempt to ſwallow nauſeous drugs. See Claſs IV. 1. 3. 1. The maſticated food ſtimulates the palate, which is an organ of ſenſe, into ſo much action, as to produce agreeable ſenſation; and the muſcles ſubſervient to deglutition are brought into action by the ſenſation thus produced. The pleaſurable ſenſation is the proximate cauſe; the action of the fibres of the extremities of the nerves of taſte is the remote cauſe; the ſenſorial power of irritation exciting theſe fibres of the nerves of taſte into increaſed

creafed action is the pre-remote caufe; the action of the mufcles of deglutition is the proximate effect; the pufhing the food into the ftomach is the remote effect; and the nutrition of the body is the poft-remote effect.

Though the mufcles fubfervient to deglutition have their actions previoufly affociated, fo as to be excited into fynchronous tribes or fucceffive trains, either by volition, as when we fwallow a difagreeable drug; or by fenfation, as when we fwallow agreeable food; or by irritation, as when we inattentively fwallow our faliva; yet do all thofe three kinds of deglutition belong to the refpective claffes of volition, fenfation, and irritation; becaufe the firft links of thefe tribes or trains of mufcular action are excited by thofe fenforial powers, and the affociated links, which accompany or fucceed them, are excited by the combined powers either of volition, or of fenfation, or of irritation, along with that of affociation.

2. *Refpiratio.* Refpiration is immediately caufed by the fenforial power of fenfation in confequence of the baneful want of vital air; and not from the accumulation of blood in the lungs, as that might be carried on by inhaling azote alone, without the oxygenous part of the atmofphere. The action of refpiration is thus fimilar to that of fwallowing our food to appeafe the pain of hunger; but the lungs being furrounded with air, their pro-

per

per pabulum, no intermediate voluntary exertions are required, as in hunger, to obtain and prepare the wanted material.

Reſpiration is ſimilar to ſlow combuſtion; the oxygenous part of the atmoſphere is received through the moiſt membranes, which line the air-cells of the lungs, and uniting with the inflammable part of the blood generates an acid, probably the phoſphoric acid; a portion of carbonic acid is likewiſe produced in this proceſs; as appears by repeatedly breathing over lime water, which then becomes turbid. See Botanic Garden, P. I. Canto I. l. 401. note.

3. *Sternutatio.* Sneezing conſiſts of muſcular actions produced by the ſenſorial faculty of ſenſation; and is an effort to diſlodge, by means of air forcibly impelled through the noſtrils, ſome material; which ſtimulates the membrane, which lines them, into too great action, and might thence injure the ſenſe of ſmell which is diffuſed on it.

In this operation the too great action of the veſſels of the membrane of the noſtrils is the remote cauſe; the ſenſation thence induced is the proximate cauſe; and the muſcular actions are the proximate effect.

This action of ſneezing frequently precedes common reſpiration in new-born children, but I believe not always; as like the latter it cannot have been previouſly acquired in the uterus.

It

It is produced in ſome people by ſudden light, as by looking up at the ſky in a morning, when they come out of a gloomy bed-chamber. It then becomes an aſſociate action, and belongs to Claſs IV. 1. 2. 2.

M. M. When it is exerted to exceſs it may be cured by ſnuffing ſtarch up the noſtrils. See Claſs I. 1. 2. 13.

4. *Anhelitus.* Panting. The quick and laborious breathing of running people, who are not accuſtomed to violent exerciſe, is occaſioned by the too great conflux of blood to the lungs. As the ſanguiferous ſyſtem, as well as the abſorbent ſyſtem, is furniſhed in many parts of its courſe with valves, which in general prevent the retrograde movement of their contained fluids; and as all theſe veſſels, in ſome part of their courſe, lie in contact with the muſcles, which are brought into action in running, it follows that the blood muſt be accelerated by the intermitted ſwelling of the bellies of the muſcles moving over them.

The difficulty of breathing, with which very fat people are immediately affected on exerciſe, is owing to the preſſure of the accumulated fat on the veins, arteries, and lymphatics; and which, by diſtending the ſkin, occaſions it to act as a tight bandage on the whole ſurface of the body. Hence when the muſcles are excited into quicker action, the progreſs of the blood in the veins, and of the lymph

lymph and chyle in the abſorbent ſyſtem, is urged on with much greater force, as under an artificial bandage on a limb, explained in Art. IV. 2. 10. and in Sect. XXXIII. 3. 2. Hence the circulation is inſtantly quickened to a great degree, and the difficulty of breathing is the conſequence of a more rapid circulation through the lungs. The increaſed ſecretion of the perſpirable matter is another conſequence of this rapid circulation; fat people, when at reſt, are believed to perſpire leſs than others, which may be gathered from their generally having more liquid ſtools, more and paler urine, and to their frequently taking leſs food than many thin people; and laſtly, from the perſpiration of fat people being generally more inodorous than that of lean ones; but when corpulent people are put in motion, the ſweat ſtands in drops on their ſkins, and they "lard the ground" as they run. The increaſe of heat of corpulent people on exerciſe, is another conſequence of their more rapid circulation, and greater ſecretion. See Claſs I. 2. 3. 17.

Other cauſes of difficult or quick reſpiration will be treated of under Aſthma, Pertuſſis, Peripneumonia, Tonſillitis.

5. *Tuſſis ebriorum.* Senſitive cough is an exertion of the muſcles uſed in expiration excited into more violent action by the ſenſorial power of ſenſation, in conſequence of ſomething which too powerfully

powerfully ſtimulates the lungs. As the ſaline part of the ſecreted mucus, when the abſorption of it is impeded; or the too great viſcidity of it, when the abſorption is increaſed; or the too great quantity of the mucus, when the ſecretion is increaſed; or the inflammation of the membranes of the lungs; it is an effort to diſlodge any of theſe extraneous materials.

Of this kind is the cough which attends free-drinkers after a debauch; it conſiſts of many ſhort efforts to cough, with a frequent exſpuition of half a tea-ſpoonful of frothy mucus, and is attended with conſiderable thirſt. The thirſt is occaſioned by the previous diſſipation of the aqueous parts of the blood by ſenſible or inſenſible perſpiration; which was produced by the increaſed action of the cutaneous and pulmonary capillaries during the ſtimulus of the wine. In conſequence of this an increaſed abſorption commences to replace this moiſture, and the ſkin and mouth become dry, and the pulmonary mucus becomes inſpiſſated; which ſtimulates the bronchia, and is raiſed into froth by the ſucceſſive currents of air in evacuating it. This production of froth is called by ſome free-drinkers "ſpitting ſixpences" after a debauch. This ſubſequent thirſt, dry mouth, and viſcid expectoration in ſome people ſucceeds the ſlighteſt degree of intoxication, of which it may be eſteemed a criterion. See Claſs IV. 2. 1. 8.

As coughs are not always attended with pain, the muſcular actions, which produce them, are

ſometimes excited by the ſenſorial faculty of irritation, as in Claſs I. 1. 2. 8. I. 1. 3. 4. I. 1. 4. 3. I. 2. 3. 4. Coughs are alſo ſometimes convulſive, as in Claſs III. 1. 1. 10. and ſometimes ſympathetic, as Claſs IV. 2. 1. 7.

M. M. Veneſection, when the cough is attended with inflammation. Mucilages. Opium. Torpentia. Bliſter.

6. *Singultus*. Hiccough is an exertion of the muſcles uſed in inſpiration excited into more violent action by the ſenſorial power of ſenſation, in conſequence of ſomething which too powerfully ſtimulates the cardia ventriculi, or upper orifice of the ſtomach. As when ſolid food is too haſtily taken without ſufficient dilution. And is an effort to diſlodge that offenſive material, and puſh it to ſome leſs ſenſible part of the ſtomach, or into the middle of the contained aliment.

At the end of fatal fevers it may ariſe from the acrimony of the undigeſted aliment, or from a part of the ſtomach being already dead, and by its weight or coldneſs affecting the ſurviving part with diſagreeable ſenſation. The pain about the upper orifice of the ſtomach is the proximate cauſe, the too great or too little action of the fibres of this part of the ſtomach is the remote cauſe, the action of the muſcles uſed in inſpiration is the proximate effect, and the repercuſſion of the offending material is the remote effect.

Hiccough is ſometimes ſympathetic, occaſioned by

by the pain of gravel in the kidney or ureter, as in Claſs IV. 1. 1. 7. and is ſometimes a ſymptom of epilepſy or reverie, as in Sect. XIX. 2.

M. M. Oil of cinnamon from one drop gradually increaſed to ten, on ſugar, or on chalk. Opium. Bliſter. Emetic.

7 *Crapula ventriculi.* Indigeſtible ſubſtances in the ſtomach. This frequently occurs in children, who are reſtrained by their ill-active friends from fruit or other ſweet things; and thus the rational mind is taught to ſuperintend the ſatiety of the ſenſation of the ſenſe of hunger, or of the pleaſure of the palate, which is contrary to nature, and a much more erroneous guide. Hence children are liable to ſwallow more plumbs and cherries than their ſtomachs can digeſt; and if theſe run haſtily into fermentation, much air, or gas, is generated; and produces an inconvenient diſtention of the ſtomach, as well as a diſagreeable ſenſation, which generally terminates in ejecting the offending matter by vomiting.

In cows which have eaten too much young clover, the ſaccharine and mucilaginous matter, which it contains, runs into ſo violent fermentation as by diſtention to deſtroy the animal. Whence it has been cuſtomary with ſome to perforate the firſt ſtomach, and thus let out the air. Dr. White, of Edinburgh, aſſerted, that he witneſſed about twenty beaſts in this ſituation, two were dead be-

fore the medicine could be adminiſtered, but to the other eighteen he directed half a pint of ſpirits, called gin or whiſky, mixed with as much water, to be given; and they all parted with much air by eructation, and recovered. An ingenious gentleman has lately put a flexible pipe down the eſophagus into the diſtended ſtomach of theſe animals, with certain ſucceſs, as related in ſome late publication. A flexible tube for this purpoſe might be made of wire wrapped round a ſtick about half an inch in diameter, and afterwards covered with leather.

A boy about 8 years old ſwallowed a halfpenny, which was believed to paſs through him at ſchool, ſome weeks afterwards, but he has not recovered his health. I was informed, that an idiot had ſwallowed a half crown piece, and directed crude quickſilver to be given him in repeated quantities, but never heard the event of the caſe.

A lady in my preſence was eating a cuſtard out of a tea-cup, and put 3 or 4 pins into her mouth, which were ſuppoſed to have been careleſsly left in the cup, and ſwallowed one of them: now, though needles have found their way out of the body, and other ſharp indigeſtible materials, yet pins being terminated with heads are ſaid often to have occaſioned dangerous and painful diſeaſes, and ſometimes death. What then ſhould be done? It occurred to me, that as the head of the pin would have ſo much greater friction than the point,

that

that if it was carried forwards by a ſtream of mucilaginous fluid, the head muſt go firſt; and I therefore immediately directed an emetic, and the pin was brought up without any pain, or any ſtains of blood in the ejected fluid.

8. *Aſthma humorale.* The humoral aſthma probably conſiſts in a temporary anaſarca of the lungs, which may be owing to a temporary defect of lymphatic abſorption. Its cauſe is nevertheleſs at preſent very obſcure, ſince a temporary deficiency of venous abſorption, at the extremities of the pulmonary or bronchial veins, might occaſion a ſimilar difficulty of reſpiration. See Abortio, Claſs I. 2. 1. 14. Or it might be ſuppoſed, that the lymph effuſed into the cavity of the cheſt might, by ſome additional heat during ſleep, acquire an aerial form, and thus compreſs the lungs; and on this circumſtance the relief, which theſe patients receive from cold air, would be readily accounted for.

The paroxyſms attack the patient in his firſt ſleep, when the circulation through the lungs in weak people wants the aſſiſtance of the voluntary power. Claſs I. 2. 1. 3. And hence the abſorbents of the lungs are leſs able to fulfil the whole of their duty. And part of the thin mucus, which is ſecreted into the air-cells, remains there unabſorbed, and occaſions the difficult reſpiration, which awakes the patient. And the violent exertions of

 the

the muscles of respiration, which succeed, are excited by the pain of suffocation, for the purpose of pushing forwards the blood through the compressed capillaries, and to promote the absorption of the effused lymph.

In this the humoral differs from the convulsive asthma, treated of in Class III. 1. 1. 10. as in that there is probably no accumulated fluid to be absorbed; and the violent respiration is only an exertion for the purpose of relieving pain, either in the lungs or in some distant part, as in other convulsions, or epilepsy; and in this respect the fits of humoral and convulsive asthma essentially differ from each other, contrary to the opinion expressed without sufficient consideration in Sect. XVIII. 15.

The patients in the paroxysms both of humoral and convulsive asthma find relief from cold air, as they generally rise out of bed, and open the window, and put out their heads; for the lungs are not sensible to cold, and the sense of suffocation is somewhat relieved by there being more oxygen contained in a given quantity of cold fresh air, than in the warm confined air of a close bed-chamber.

I have seen humoral asthma terminate in confirmed anasarca, and destroy the patient, who had been an excessive drinker of spirituous potation. And M. Savage asserts, that this disease frequently terminates in diabetes; which seems to shew, that it is a temporary dropsy relieved by a great flow of urine. Add to this, that these paroxysms of

the asthma are themselves relieved by profuse sweats of the upper parts of the body, as explained in Class I. 3. 2. 8. which would countenance the idea of their being occasioned by congestions of lymph in the lungs.

The congestion of lymph in the lungs from the defective absorption of it is probably the remote cause of humoral asthma; but the pain of suffocation is the immediate cause of the violent exertions in the paroxysms. And whether this congestion of lymph in the air-cells of the lungs increases during our sleep, as above suggested, or not; the pain of suffocation will be more and more distressing after some hours of sleep, as the sensibility to internal stimuli increases during that time, as described in Sect. XVIII. 15. For the same reason many epileptic fits, and paroxysms of the gout, occur during sleep.

In two gouty cases, complicated with jaundice, and pain, and sickness, the patients had each of them a shivering fit, like the commencement of an ague, to the great alarm of their friends; both which commenced in the night, I suppose during their sleep; and the consequence was a cessation of the jaundice, and pain about the stomach, and sickness; and instead of that the gout appeared in their extremities. In these cases I conjecture, that there was a metastasis not only of the diseased action from the membranes of the liver to those of the foot; but that some of the new vessels, or new

 fluids,

fluids, which were previously produced in the inflamed liver, were traslated to the feet during the cold fit, by the increased absorption of the hepatic lymphatics, and by the retrograde motions of those of the affected limbs.

This I think resembles in some respects a fit of humoral asthma, where stronger motions of the absorbent vessels of the lungs are excited, and retrograde ones of the correspondent cutaneous lymphatics; whence the violent sweats of the upper parts of the body only are produced; and for a time the patient becomes relieved by the metastasis and elimination of the offending material by sensitive exertion. For a further account of this intricate subject see Class III. 1. 1. 10.

M. M. To relieve the paroxysm a tea-spoonful of ether may be given mixed with water, with 10 drops of laudanum, to be repeated three or four times. Venesection. An emetic. A blister. Afterwards the Peruvian bark, with a grain of opium at night, and two or three of aloes. A flannel shirt in winter, but not in summer. Issues. Digitalis?

In this species of asthma, there is great reason to believe, that the respiration of an atmosphere, with an increased proportion of oxygen, will prove of great advantage; some well-observed and well-attested cases of which are published by Dr. Beddoes; as this purer air invigorates the circulation, and the whole system in consequence, perhaps not

only by its ſtimulus, but by its ſupplying the material from which the ſenſorial power is extracted or fabricated. In ſpaſmodic aſthma, on the contrary, Dr. Ferriar has found undoubted benefit from an atmoſphere mixed with hydrogen. See Sect. XVIII. 15. and Claſs III. 1. 1. 10.

9. *Nictitatio ſenſitiva.* Winking of the eyes is performed every minute, without our attention, for the purpoſe of diffuſing the tears over them, which are poured into the eye a little above the external corner of it, and which are afterwards abſorbed by the lacrymal points above and below the internal corner of it. When this operation is performed without our attention, it is cauſed by the faculty of irritation, and belongs to Claſs I. 1. 4. 1. but when it is produced by a ſtronger ſtimulus of any extraneous material in the eye, ſo as to cauſe pain, the violent and frequent nictitation is cauſed by the faculty of ſenſation.

This diſeaſe is ſometimes produced by the introverſion of the edge of the lower eyelid, which bends the points of the hairs of the eyelaſh upon the ball of the eye, which perpetually ſtimulate it into painful ſenſation. This introverſion of the eyelid is generally owing to a tumour of the cellular membrane below the edge of the eyelid, and though a very troubleſome complaint may often be cured by the following ſimple means. A little common plaſter ſpread on thin linen, about a quarter

ter of an inch long, muſt be rolled up ſo as to be about the ſize of a crow-quill; this muſt be applied immediately below the eyelaſh on the outſide of the eye, and muſt be kept on by another plaſter over it. This will then act as a ſlight compreſſion on the tumour under the eyelaſh, and will prevent the hairs from touching the eye-ball. In a week or two the compreſſion will diminiſh the tumor it lies over, and cure this painful deformity.

10. *Oſcitatio et pandiculatio.* Yawning and ſtretching of the limbs is produced either by a long inactivity of the muſcles now brought into action, as ſometimes happens after ſleep, or after liſtening a long time to a dull narrative; or it is produced by a too long continued action of the antagoniſt muſcles. In the former caſe there is an accumulation of ſenſorial power during the quieſcence of the muſcles now brought into action; which probably conſtitutes the pain or weariſomeneſs of a continued attitude. In the latter caſe there is an exhauſtion of ſenſorial power in the muſcles, which have lately been acting violently, and a conſequent accumulation in the muſcles, which are antagoniſts to them, and which were at reſt.

Theſe involuntary motions are often ſeen in paralytic limbs, which are at the ſame time completely diſobedient to the will; and are frequently obſervable in very young children; and from thence

thence we may conclude, that theſe motions are learnt before nativity; as puppies are ſeen to open their mouths before the membranes are broken. See Sect. XVI. 2.

Where theſe motions are obſerved in limbs otherwiſe paralytic, it is an indication that electric ſhocks may be employed with advantage, as the excitability of the limb by irritation is not extinct, though it be diſobedient both to volition and ſenſation.

11. *Teneſmus* conſiſts in violent and frequent ineffectual efforts to diſcharge the contents of the rectum, owing to pain of the ſphincter. The pain is produced by indurated feces, or by ſome acrid material, as the acidity of indigeſted aliment; and the efforts are attended with mucus from the pained membrane. The feces muſt ſometimes be taken away by the end of a marrow-ſpoon, as cathartics and even clyſters will paſs without removing them. It is ſometimes cauſed by ſympathy with the urethra, when there is a ſtone at the neck of the bladder. See Claſs II. 2. 2. 7. and IV. 1. 2. 8.

M. M. Fomentation, an enema with mucilage and laudanum.

The common excluſion of the feces from the rectum is a proceſs ſimilar to this, except that the muſcles of the ſphincter ani, and thoſe of the abdomen, which act along with them by the combined

bined powers of ſenſation and aſſociation, are in teneſmus excited by painful ſenſation, and in the latter by a ſenſation, which may in ſome inſtances be almoſt called pleaſurable, as relieving us from a painful one in the excluſion of the feces.

12. *Stranguria.* Strangury conſiſts in painful efforts to diſcharge the contents of the urinary bladder. It is generally owing to a ſtone in the ſphincter of the bladder; or to the inflammation of the neck of it occaſioned by cantharides. It is ſometimes cauſed by ſympathy with the piles; and then is liable in women to occaſion convulſions, from the violence of the pain without inflammation. See Claſs IV. 2. 2. 2. and 3.

M. M. Fomentation clyſter with oil and laudanum, puſh the ſtone back with a bougie; if from cantharides, give half a pint of warm water every ten minutes. Mucilage of gum arabic and tragacanth.

The natural evacuation of the urine is a proceſs ſimilar to this, except that the muſcular fibres of the bladder, and the muſcles of the abdomen, which act in concert with them by the combined powers of ſenſation and of aſſociation, are, in the former caſe of ſtrangury, excited into action by painful ſenſation; and in the latter by a ſenſation, which may almoſt be termed pleaſurable, as it relieves us from a previous uneaſy one.

The ejectio ſeminis is another proceſs in ſome reſpects

respects similar to strangury, as belonging to the same sensible canal of the urethra, and by exciting into action the acceleratory muscles; but in the strangury these muscles are excited into action by painful sensation, and in the ejection of the semen by pleasurable sensation.

13. *Parturitio.* Parturition is not a disease, it is a natural process, but is more frequently unfortunate in high life than amongst the middle class of females; which may be owing partly to fear, with which the priests of LUCINA are liable to inspire the ladies of fashion to induce them to lie-in in town; and partly to the bad air of London, to which they purposely resort.

There are however other causes, which render parturition more dangerous to the ladies of high life; such as their greater general debility from neglect of energetic exercise, their inexperience of the variations of cold and heat, and their seclusion from fresh air. To which must be added, that great source of the destruction of female grace and beauty, as well as of female health, the tight stays, and other bandages, with which they are generally tortured in their early years by the active folly of their friends, which by displacing many of the viscera impedes their actions, and by compressing them together produces adhesions of one part to another, and affects even the form and

aperture

aperture of the bones of the pelvis, through which the nascent child must be protruded.

As parturition is a natural, not a morbid process, no medicine should be given, where there is no appearance of disease. The absurd custom of giving a powerful opiate without indication to all women, as soon as they are delivered, is, I make no doubt, frequently attended with injurious, and sometimes with fatal consequences. See Class II. 1. 2. 16.

Another thing very injurious to the child, is the tying and cutting the navel-string too soon; which should always be left till the child has not only repeatedly breathed, but till all pulsation in the cord ceases. As otherwise the child is much weaker than it ought to be; a part of the blood being left in the placenta, which ought to have been in the child; and at the same time the placenta does not so naturally collapse, and withdraw itself from the sides of the uterus, and is not therefore removed with so much safety and certainty. The folly of giving rue or rhubarb to new-born children, and the danger of feeding them with gruel instead of milk, is spoken of in Class I. 1. 2. 5. and II. 1. 2. 16.

Many ladies become diseased by an unnatural refusal of giving suck to their child, which ought to relieve their breasts of the load of milk, and give consolation to their minds by the storge or

love

love to their infant. Many ladies indeed experience a difficulty in nursing their children from their not having nipples to their breasts; which have been often inflamed and destroyed in their early years, even in their infancy, as I have seen, by the hard edge of stiff stays rubbing against them, and sometimes, I believe, by the small-pox.

M. Herholdt, of Copenhagen, has announced a discovery which he thinks highly interesting to humanity; which is, that the apparent death of new-born infants arises from the trachea, or wind-pipe, being filled with water; and that they may be generally saved by giving them such an inclined position, that the water may run out. Of thirteen children, which were supposed to be dead or still-born, he says, that twelve recovered by these simple means. As the trachea may not have acquired due sensibility before delivery, in some feeble or premature births, this circumstance may possibly arise, though it seldom occurs even in drowned people. Medical Review, July, 1799.

ORDO I.

Increased Sensation.

GENUS II.

With the Production of new Vessels by internal Membranes or Glands, with Fever.

In the first class of diseases two kinds of fevers were described, one from excess, and the other from defect of irritation; and were in consequence termed irritative, and inirritative fevers. In this second class of diseases another kind of fever occurs, which is caused by excess of sensation, and termed in consequence Sensitive Fever. But there is no fever from defect of sensation, because the circulation is carried on in health without our consciousness, that is, without any sensation attending it.

But as excess of sensation may exist with excess or defect of irritation, two other kinds of fever arise from a combination of sensitive fever with the irritative, and inirritative ones. Making five kinds in all.

1. Irritative fever, described in Class I. 1. 1. 1.
2. Inirritative fever. Class I. 2. 1. 1.
3. Sensitive fever. Class II. 1. 6. 1.
4. Sensitive irritated fever. Class II. 1. 2. 1.
5. Sensitive inirritated fever. Class II. 1. 3. 1.

As the sensitive irritated fever attends all the diseases enumerated under the genus about to be described,

deſcribed, it is placed at the head of it. And as the ſenſitive inirritated fever accompanies the greateſt number of the ſpecies enumerated under the third genus of this order, it is placed at the head of them. And as the ſenſitive fever attends the diſeaſes of the ſixth genus, it is placed at the head of them. But as every febrile paroxyſm conſiſts of diſordered tribes or trains of aſſociated motions, it may be doubted, whether they ought not all to have been placed in the fourth claſs, amongſt the diſeaſes of aſſociation. See Claſs IV. 2. 4. 11.

All the ſubſequent ſpecies of this genus are attended with ſenſitive irritated fever; there are nevertheleſs ſome ſuperficial inflammations, which affect the ſame ſituations without much fever, as the ſcrofulous ophthalmy and ſpurious peripneumony, which belong to other genera.

Inflammation is uniformly attended with the production or ſecretion of new fibres conſtituting new veſſels; this therefore may be eſteemed its eſſential character, or the criterion of its exiſtence. The extenſion of the old veſſels ſeems rather a conſequence than a cauſe of the germination, or pullulation, of theſe new ones; for the old veſſels may be enlarged, and excited with unuſual energy, without any production of new ones, as in the bluſh of ſhame or of anger.

When theſe new veſſels are formed, if they are not reabſorbed into the circulation, they ſecrete a

 new

new fluid called purulent matter; which generally opens itself a passage on the external skin, and produces an ulcer, which either gradually heals, or spreads, and is the cause of hectic fever; or they secrete contagious matter, which has the property of exciting the same kind of inflammation, and of producing the same kind of contagious matter, when inserted by inoculation into the skin of other persons. These contagious matters form ulcers, which either heal spontaneously, or by art; or continue to spread, and destroy the patient, by other kinds of hectic fever.

In this genus there is an increase of the sensorial power of irritation as well as of sensation; whence great arterial energy is produced, and the pulse becomes strong and full, as well as quick; and the coats of the arteries feel hard under the finger, being themselves thickened and distended by inflammation. The blood drawn, especially at the second bleeding, is covered with a tough size; which is probably the mucus from the inflamed internal surface of the arteries, increased in quantity, and more coagulable than in its natural state; the thinner part being more perfectly absorbed by the increased action of the inflamed absorbents. See Sect. XXXIII. 2. 2. This is rendered more probable, because the hard feel of the pulse, and the abundance of coagulable lymph commence, exist, and cease together.

Great heat is produced from the new chemical combinations

combinations arising in the secretion of new fibres, and great pain from the distention of old ones, or from their increased action. The increased quantity of sensation from a topical inflammation or phlegmon is the immediate cause of the febris sensitiva irritata, or inflammatory fever; as when it arises from the pain of pleurisy, or paronychia; but generally an irritative fever precedes this topical inflammation, which occurs during the hot fit of it; and then the irritative fever is changed into a sensitive irritated fever, by the additional cause of the sensorial power of sensation besides that of irritation.

SPECIES.

1. *Febris sensitiva irritata.* Sensitive irritated fever, or inflammatory fever. Phlegmasia. A strong full pulse, with inflammation of the coats of the arteries, constitutes this disease. It originates from some topical inflammation, which, if the fever is not subdued, terminates in suppuration; and differs from irritative fever in respect to the painful sensation which accompanies it. For as pleasurable sensation is the cause of the growth of the new vessels, and distention of the old ones, in the natural enlargement of the body during our infancy; so a painful sensation is the cause of the unnatural production of new vessels, and enlargement of old ones in inflammatory diseases.

When matter is thus formed in any internal viscus, or in the cellular membrane, as in the lungs or liver; so long as this abscess remains without admission of air, this inflammatory fever is liable to continue, receiving only temporary relief by bleeding or emetics, or cathartics; till the patient, after a month, or two, or three, expires. But, if air be admitted to these internal abscesses, this kind of fever is changed into a hectic fever in a single day. It also sometimes happens, that when the abscess remains unopened to the air, if the matter has become putrid, hectic fever supervenes, with colliquative sweats, or diarrhœa; the matter in both cases is sometimes absorbed, and the sides of the abscess grow together again without an external aperture. See Class II. 1. 4. 1. and 2. Another termination of inflammation is in gangrene, but this belongs to the inflammation of the external skin; as the production of purulent matter belongs to inflammation of the internal or mucous membranes. Thus when the external skin is the seat of inflammation, as in erythema, or erysipelas, and produces sensitive irritated fever, no collection of purulent matter can be formed; but a material oozes out, and lies upon the surface, like that in the confluent small-pox, and the cuticle at length peels off, or gangrene supervenes. It must be noted, that these kinds of inflammation can exist together; and some parts of the cellular membrane may

may ſuppurate at the ſame time that the external ſkin is affected with erythema, or eryſipelas.

M. M. Veneſection. Cathartics. Diluents. Cool air. Torpentia. Cold Bath? See Sect. XII. 6.

The increaſed arterial action in this ſenſitive irritated fever is not ſimply owing to the increaſed irritability of the arterial ſyſtem, or to the ſtimulus of the diſtention of the veſſels, but alſo to the increaſed acrimony or pungency of the blood; which has now ſo far changed its nature as to become more fluid, more denſe, and to be loaded with coagulable lymph. Hence it becomes neceſſary not only to leſſen the quantity of blood by veneſection and by cathartics, but alſo to dilute its acrimony, or pungency, by the introduction of aqueous and mucilaginous fluids, ſuch as barley water, cream and water, ſugar and water, weak broths; to which may be added ſo much of ſome vegetable eſſential oil, as may render them grateful to the ſtomach, and thus promote their abſorption; as by infuſing parſley or cellery and turneps in the broth; or by balm, mint, or ſage teas.

The following ſpecies of this genus only diſtinguiſh the ſituation of the part previouſly inflamed, and which is the remote cauſe of the ſenſitive irritated, or inflammatory fever, which attends it.

2. *Ophthalmia interna.* Inflammation of the eye is attended with the production of new veſſels, which ſpread over the tunica adjunctiva, and over the

the cornea; theſe new veſſels are eaſily ſeen, as they lie on a white ground, and give ocular demonſtration of their production in inflammation. When this inflammation of the cornea ſuppurates, it is liable to leave little ulcers, which may be ſeen beneath the ſurface in the form of little excavations; and as theſe heal, they are liable to be covered with an opake ſcar. This ſcar, in ſome months or years, is liable to wear away, and become tranſparent, without the aſſiſtance of any poliſhing powder, as of very finely levigated glaſs, as ſome have recommended. But when the cornea is affected through all its thickneſs, the return of its tranſparency becomes hopeleſs. See Claſs I. 1. 3. 14.

In violent degrees of ophthalmy the internal parts, as the retina, optic artery, iris, ciliary proceſs, become inflamed, as well as the external ones; hence the leaſt light admitted to the eye occaſions intolerable pain. This curious circumſtance cannot be owing to the action of light on the inflamed veſſels of the cornea; it therefore ſhews, that the extremity of the optic nerve or retina is alſo rendered more exquiſitely ſenſible to light, by partaking of the inflammation; and I have been told, that red colours are in theſe caſes ſometimes painfully perceived even in perfect darkneſs. This ſhews that the retina is excited into motion by the ſtimulus of light; and that, when it is inflamed, theſe motions give great pain, like thoſe of other inflamed parts, as the muſcles, or membranes.

And

And ſecondly, that the ideas of colours conſiſt in the motions of the retina; which ideas occaſion pain, when the extremity of the moving nerve is inflamed.

M. M. Veneſection. Cathartics. Diluents. Torpentia. Frequently moiſten the eye with cold water by means of a rag. Cool airy room. Darkneſs. When the inflammation begins to decline, white vitriol gr. vi. in an ounce of water is more efficacious to moiſten the eye than ſolutions of lead. Tincture of opium diluted. Extract of belladonna. New veſſels from the inflamed tunica adnata frequently ſpread like a fly's wing upon the tranſparent cornea, which is then called Pterigium. To ſtop the growth of this, the principal veſſels ſhould be cut through with a lancet. When the inflammation begins to decline, after due evacuation any ſtimulating material put into the eye increaſes the abſorption, which ſoon removes the new red veſſels; which has given riſe to a hundred famous eye-waters, and eye-doctors; if theſe ſtimulating materials are uſed too ſoon, the inflammation is increaſed by them. See Sect. XXXII. 2. 10. Claſs I. 2. 2. 13.

There is another ophthalmia, which attends weak children, and is generally eſteemed a ſymptom of ſcrofula, as deſcribed in Claſs II. 1. 5. 3. and another, which is of venereal origin, mentioned in Claſs II. 1. 5. 2. both which may be termed ophthalmia ſuperficialis.

3. *Phrenitis.* Inflammation of the brain is attended with intolerance of light and ſound; which ſhews, that the extremities of the nerves of thoſe ſenſes are at the ſame time inflamed; it is alſo attended with great pain of the head, with watchfulneſs, and furious delirium. The violent efforts, theſe patients are ſaid ſometimes to exert, are owing to the increaſed ſecretion of ſenſorial power in the brain; as all other inflamed glands have a greater circulation of blood paſſing through them, and a greater ſecretion in conſequence of their peculiar fluids, as in the hepatitis much more bile is generated.

M. M. Veneſection. Cathartics. Torpentia. Foment the head with cold water for hours together. Or with warm water. Cool airy room. Afterwards cupping on the occiput. Leeches to the temples. When the patient is weakened a bliſter on the head, and after further exhauſtion five or ſix drops of tincture of opium.

4. *Peripneumonia.* Inflammation of the lungs. The pulſe is not always hard, ſometimes ſoft; which is probably owing to a degree of ſickneſs or inaction of the ſtomach; with dull pain of the cheſt; reſpiration conſtantly difficult, ſometimes with erect poſture; the face bloated and purpliſh; cough generally with moiſt expectoration, often ſtained with blood.

When the difficulty of reſpiration is very great, the

the patient is not able to cough; in this ſituation, after copious bleeding, the cough is liable to return, and is ſo far a favourable ſymptom, as it ſhews ſome abatement of the inflammation.

A peripneumony frequently occurs in the chincough, and deſtroys the patient, except immediate recourſe be had to the lancet, or to four or five leeches; when blood cannot be otherwiſe taken.

The peripneumony is very fatal to young children, eſpecially as I believe it is frequently miſtaken for a ſpaſmodic aſthma, or for the croup, or cynanche trachealis of Cullen. Both which, however, when they occur, require immediate veneſection by the lancet or by leeches, as well as the peripneumony; as mentioned below.

Inflammation of the lungs is alſo liable to occur in the meaſles, and in the hooping-cough, and muſt be attacked by veneſection at any time of the diſeaſe; otherwiſe either a preſent death, or an incurable conſumption, is the conſequence.

The peripneumony is frequently combined with inflammation of the pleura, and ſometimes with that of the diaphragm; either of theſe may generally be diſtinguiſhed, not only by the pain which attends inflammation of theſe membranes, but by inſpecting the naked cheſt, and obſerving whether the patient breathes more by elevating the ribs, or by depreſſing the diaphragm.

A criſis happens in children about the ſixth day with much pale urine, which muſt be waited for

after

after evacuations have been uſed, as far as can be done with ſafety; in this ſituation the warm bath twice a day, and ſmall bliſters repeatedly in ſucceſſion, are of peculiar ſervice.

After the termination of peripneumony a collection of coagulable lymph is frequently left in the cavity of the cheſt unabſorbed; or a common anaſarca of the lungs occurs from the preſent inaction of the abſorbent veſſels, which had previouſly been excited too violently. This difficulty of breathing is cured or relieved by the exhibition of digitalis. See Art. IV. 2. 7.

M. M. The lancet is the anchor of hope in this diſeaſe; which muſt be repeated four or five times, or as often as the fever and difficulty of breathing increaſe, which is generally in the evening; antimonials, diluents, repeated ſmall bliſters about the cheſt, mucilage, pediluvium, warm bath. Is a decoction of ſeneca-root of uſe? Do not neutral ſalts increaſe the tendency to cough by their ſtimulus, as they increaſe the heat of urine in gonorrhœa? Children in every kind of difficult breathing, from whatever cauſe, ſhould be kept as upright in bed as may be, and continually watched; ſince, if they ſlip down, they are liable to be immediately ſuffocated: to prevent which a pillow ſhould be put beneath the undermoſt ſheet half way down in the bed, ſo as to receive the poſteriors of the child, and thus counteract its ſliding down lower; or drawers on the thighs might be occa-

ſionally

sionally used for this purpose, as mentioned in Class III. 2. 1. 10. And children should have no cap string tied under their chins, in any cough or difficulty of respiration, since if they slip down in their bed the friction of the night-cap on the pillow is liable to draw the tape or ribbon under the chin too tight, and suffocate them. After the patient is greatly debilitated, so that no further evacuation can be admitted, and the difficult breathing and cough continue, I have given four or five drops of tincture of opium, that is, about a quarter of a grain of solid opium, with great advantage, and I believe in several cases I have saved the patient. A greater quantity of opium in this state of debility cannot be used without hazarding the life of the person. This small quantity of an opiate should be given about six in the evening, or before the access of the evening paroxysm, and repeated three or four nights, or longer.

There is a peripneumony with weak pulse, which may be termed *peripneumonia inirritata*, as described in Sect. XXVII. 2. which belongs to this place. See also Superficial Peripneumony, Class II. 1. 3. 7.

Peripneumonia arthritica. Gouty peripneumony. I believe, that there exists a peripneumony, and a pleurisy which owe their inflammation to the sympathy of those membranes with some other parts of the system, and may then properly be termed rheumatic or gouty peripneumony, or pleurisy. And that the coagulable lymph left upon the

the inflamed membranes has generally been owing to theſe ſympathetic inflammations, and that hydrops thoracis, and anaſarca pulmonum are generally cauſed by gouty affections of the lungs, or rheumatic affections of the pleura, and not by the more common idiopathic inflammations of thoſe membranes. See Claſs I. 2. 3. 14. and Claſs IV. 1. 2. 16. and Claſs IV. 1. 2. 9.

Peripneumonia trachealis. Croup. The croup is an inflammation of the upper part, and the peripneumonia of the lower part of the ſame organ, viz. the trachea or wind-pipe. See Claſs I. 1. 3. 4. But as the inflammation is ſeldom, I believe, confined to the upper part of the trachea only, but exiſts at the ſame time in other parts of the lungs; and as no inflammation of the tonſils is generally perceptible, the uncouth name of cynanche trachealis ſhould be changed for peripneumonia trachealis.

Dr. Wichmann, of Hanover, believes, that the acute aſthma of Millar, or hives, has been confounded with the angina polypoſa, or croup, which has occaſioned the great difference in the treatment recommended by authors; as the diſeaſe has been eſteemed inflammatory by ſome, and ſpaſmodic by others.

The convulſive aſthma, which I have witneſſed in one child, was readily diſtinguiſhed from the croup; as there was ſimply a great exertion in breathing, but without the harſh ſound which attends

tends the inſpirations in the latter, and there was no attendant fever; and the diſeaſe was cured by one veneſection, and a moderate doſe of opium after the veneſection. See aſthma convulſivum. Claſs III. 1. 1. 10.

A convulſive difficulty of reſpiration may thus be eaſily diſtinguiſhed from the croup; as in the former the patient draws in the breath eaſily, and then voluntarily cloſes the larynx, and voluntarily uſes great exertion in forcing out the breath, with deſign to relieve ſome pain by this violent exertion, as in paroxyſms of epilepſy.

On the contrary, in the croup the breath is eaſily expired, but the inſpirations are attended with the utmoſt difficulty. This difficulty of inſpiration may be ſeen by viewing the region of the ſtomach; as when the child raiſes the ſternum for the purpoſe of drawing in its breath, the preſſure of the atmoſphere on the pit of the ſtomach preſſes the diaphragm upwards, and makes a ſudden and great hollow in the ſcrobiculus cordis. This difficulty of inſpiration, and not of expiration, is alſo known by the harſh ſound, which only attends the inſpiration.

This difficulty of inſpiration may in part be owing to this circumſtance. In diſſecting thoſe children who have died of the croup, I believe the upper part of the adherent coagulable lymph, or indurated mucus, formed within the trachea, is found to become looſe, and to ſeparate from the

upper part of the trachea before the lower part of that adhesive membranous crust begins to separate, and hence the loose upper part at the time of inspiration is bent downwards into the trachea, and thus becomes double, and obstructs the passage; but this duplicature of it does not happen in expiration. See Transact. of a Society, Vol. II. Account of Croup, by Henry Ramsey, case the 8th. Might not this be prevented from being fatal, by an aperture into the wind-pipe beneath the larynx?

I have very lately seen a most distinct case of this peripneumonia trachealis, or croup. The child, about ten months old, had great difficulty in drawing in its breath, with much noise; but had much less difficulty in its expiration, with little or generally no sound. On observing its naked chest, the sternum, or breast-bone, was seen to be raised with great force; and then the diaphragm, and the bowels under it, rose hastily up into the lower part of the cavity of the chest; and the air rushed with difficulty, and with great sound, through the contracted larynx into the upper part of the chest; both these effects were evidently owing to the pressure of the atmosphere, to supply the vacuity, which must otherwise succeed the forcibly raising of the sternum.

Why the difficulty of inspiring was so much greater than of expiring, requires to be further explained. During inspiration, the pressure of the atmosphere,

atmoſphere, when the cavity of the cheſt is enlarged by raiſing the ſternum, and depreſſing the diaphragm, acts upon the external part of the larynx, as well as on the aperture of it, and thus contracts it, and aſſiſts the diſeaſe; whereas in expiration there is no increaſe of atmoſpheric preſſure on the outſide of the larynx, or trachea, to prevent the excluſion of the air. In the ſame manner, if a flexible pipe of ſoft leather was extended upwards a few inches through the bottom of a bucket of water, but very little of the water could be diſcharged by it; as the preſſure on its ſides would ſoon compreſs the pipe, and thus ſtop up its mouth.

After repeated veneſection, and a cathartic of calomel, a bliſter was applied on each ſide of the larynx, and the difficulty of breathing became greatly relieved; and though the child had intervals of eaſier reſpiration, and without noiſe, yet it died on the ſucceeding day.

Where the difficulty of breathing is very urgent in the croup, bronchotomy is recommended by Mr. Field. Memoirs of a Medical Society, London, 1773, Vol. IV.

After repeated veneſection, and cathartics, perhaps a drop or two drops of tincture of opium, about ſix in the evening, might be of uſe to prevent the return of the evening paroxyſm, and this eſpecially if the difficulty of reſpiration has an interval or remiſſion, as mentioned below.

A ſtrong decoction of ſeneca root is recom-

mended

mended by Dr. Archer, of America. He boils half an ounce of the root, from eight ounces of water to four, and gives a tea-ſpoonful every hour or half hour, ſo as to produce vomiting or purging, and then gives it in ſmaller quantities. He alſo rubs mercurial ointment about the throat, and uſes calomel internally, ſo as to affect the glands of the throat as quickly as poſſible, when the diſeaſe is more advanced, and the difficulty of breathing with harſh and ſhrill inſpiration is more urgent. Medical and Phyſical Journal, No. I. p. 83. As a decoction of ſeneca root particulary ſtimulates ſome parts of the throat, occaſioning a diſagreeable ſenſation in it, it may in ſome caſes contribute to looſen or diſcharge the adheſive coagulable lymph, which has been ſecreted on the inflamed membrane of the wind-pipe, and occaſions the difficulty of inſpiration by contracting its aperture; and may therefore be worth trial after repeated veneſection, and cathartics, and bliſters on each ſide of the throat.

Dr. Wichmann of Hanover, above mentioned, aſſerts, that in the croup the diſeaſe continues regularly to increaſe, from the commencement of it, without intervals of relief from the great difficulty of breathing; and gives this as a criterion to diſtinguiſh the angina polypoſa from the aſthma acutum. Annals of Medicine, Vol. I. But in the caſes of true croup, peripneumonia trachealis, I have ſeen with ſurpriſe the difficulty of reſpiration

to

to ceaſe for a time, and return again with unabated violence. Theſe remiſſions of the difficult reſpiration are alſo mentioned by Dr. Ferriar, who then terms it a ſpurious croup, but which I ſuſpect to be owing ſimply to the following circumſtances.

In a common catarrh, when the mucous membrane of the noſtrils is much inflamed, it becomes ſo thickened as totally to prevent reſpiration through them; yet on ſuddenly warming the ſkin, by drinking tea or by a fire, and ſometimes by only cooling the membrane of the noſtrils by going into the cold air, the ſwelling of this membrane will ſuddenly ſubſide, ſo as to permit the air to paſs through quite eaſily for a time, as explained in catarrhus calidus. Claſs I. 1. 2. 7. The ſame circumſtance may occur to the inflammation of the membrane, which lines the upper part of the trachea, or it may happen from the doubling of the looſened upper part of the adheſive mucus.

M. M. Frequent bleeding by the lancet or leeches. A few grains of calomel. Seneka. Bliſters about the throat. An opiate in ſmall quantity at night after previous evacuations. Mercurial ointment. Warm bath. Breathing over the ſteam of warm water, with or without volatile alcali, or ether, or vinegar. Particular attention ſhould be uſed to keep the child raiſed high in bed. Might the ſkin be kept agreeably warm, and at the ſame time might quite cold air be breathed through a tube coming from without, through a broken window,

or hole in a door? Or might the child be carried out into the cold air very warmly clad? If a ſolution of ſublimate could be ſafely uſed, as in gonorrhœa, Claſs II. 1. 5. 1?

After evacuation by copious veneſection, might not the frequent application of ether externally to the throat be ſerviceable? And where there occur intervals of eaſy reſpiration, might not breathing over the duſt of powdered Peruvian bark prevent a return of the thickening of the membrane, as deſcribed in Claſs II. 1. 6. 7.

5. *Pleuritis.* Pleuriſy. Inflammation of the pleura, with hard pulſe, pain chiefly of the ſide, pungent, particularly increaſed during inſpiration; lying on either ſide uneaſy, the cough very painful, dry at the beginning, afterwards moiſt, often bloody.

One cauſe of pleuriſy is probably a previous adheſion of the lungs to a part of the pleura, which envelops them. This in many caſes has been produced in infancy, by ſuffering children to lie too long on one ſide. Or by placing them uniformly on one ſide of a fire, or window, to which they will be liable always to bend themſelves.

When matter is produced during peripneumony or pleuriſy in one ſide of the cheſt, ſo long as it is a concealed vomica, the fever continues, if the diſeaſe be great, for many weeks, and even months; and requires occaſional veneſection, till the patient

tient sinks under the inflammatory or sensitive irritated fever. But if air be admitted, by a part of the abscess opening itself a way into the air-vessels of the lungs, a hectic fever, with colliquative sweats or diarrhœa, supervenes, and frequently destroys the patient; or the abscess heals, the lungs adhering to the pleura. See pleurodyne rheumatica. Class IV. 1. 2. 16.

M. M. The lancet must be used copiously, and repeated as often as the pain and difficult respiration increase. A blister on the pained part. Antimonial preparations. Diluents. Cool air. Do neutral salts increase the tendency to cough? Pediluvium or semicupium frequently repeated.

6. *Diaphragmitis.* Inflammation of the diaphragm. Pain round the lower ribs as if girt with a cord. Difficult respiration performed only by elevating the ribs and in an erect posture. The corners of the mouth frequently retracted into a disagreeable smile, called risus Sardonicus.

Those animals, which are furnished with clavicles, or collar-bones, not only use their foremost feet as hands, as men, monkeys, cats, mice, squirrels, &c. but elevate their ribs in respiration as well as depress the diaphragm for the purpose of enlarging the cavity of the chest. Hence an inflammation of the diaphragm is sudden death to those animals, as horses and dogs, which can only breathe by depressing the diaphragm; and is I suppose

poſe the cauſe of the ſudden death of horſes that are over-worked; whereas, in the human animal, when the diaphragm is inflamed, ſo as to render its motions impoſſible from the pain they occaſion, reſpiration can be carried on, though in a leſs perfect manner, by the intercoſtal muſcles in the elevation of the ribs. In pleuriſy the ribs are kept motionleſs, and the reſpiration is performed by the diaphragm, as may be readily ſeen on inſpecting the naked cheſt, and which is generally a bad ſymptom; in the diaphragmitis the ribs are alternately elevated, and depreſſed, but the lower part of the belly is not ſeen to move.

M. M. As in pleuriſy and peripneumony. When the patient becomes delirious, and ſmiles diſagreeably by intervals, and is become ſo weak, that evacuations by the lancet could be uſed no further, and I have almoſt deſpaired of my patient, I have found in two or three inſtances, that about five or ſix drops of tinct. thebaic. given an hour before the evening exacerbation, have had the happieſt effect, and cured the patient in this caſe, as well as in common peripneumony; it muſt be repeated two or three evenings, ſee Claſs II. 1. 2. 4. as the exacerbation of the fever, and difficult reſpiration, and delirium, generally increaſe towards night.

The ſtimulus of this ſmall quantity of opium on a patient previouſly ſo much debilitated, acts by increaſing the exertion of the abſorbent veſſels, in the

the ſame manner as a ſolution of opium, or any other ſtimulant, put on an inflamed eye after the veſſels are previouſly emptied by evacuations, ſtimulates the abſorbent ſyſtem, ſo as to cauſe the remaining new veſſels to be immediately reabſorbed. Which ſame ſtimulants would have increaſed the inflammation, if they had been applied before the evacuations. See Claſs II. 1. 2. 2. Sect. XXXIII. 3. 1. When the ſanguiferous ſyſtem is full of blood, the abſorbents cannot act ſo powerfully, as the progreſs of their contents is oppoſed by the previous fulneſs of the blood-veſſels; whence ſtimulants in that caſe increaſe the action of the ſecerning ſyſtem more than of the abſorbent one; but after copious evacuation this reſiſtance to the progreſs of the abſorbed fluids is removed; and when ſtimulants are then applied, they increaſe the action of the abſorbent ſyſtem more than that of the ſecerning one. Hence opium given in the commencement of inflammatory diſeaſes deſtroys the patient; and cures them, if given in very ſmall doſes at the end of inflammatory diſeaſes.

7. *Carditis.* Inflammation of the heart is attended with unequal intermitting pulſe, palpitation, pain in the middle of the ſternum, and conſtant vomiting. It cannot certainly be diſtinguiſhed from peripneumony, and is perhaps always combined with it.

 8. *Peri-*

8. *Peritonitis*. Inflammation of the peritonæum is known by pain all over the abdomen, which is increaſed on erecting the body. It has probably moſt frequently a rheumatic origin. See Claſs II. 1. 2. 17.

9. *Meſenteritis*. Inflammation of the meſentery is attended with pains like colic, and with curdled or chyle-like ſtools. It is a very frequent and dangerous diſeaſe, as the production of matter more readily takes place in it than in any other viſcus. The conſequence of which, after a hard labour, is probably the puerperal fever, and in ſcrofulous habits a fatal purulent fever, or hopeleſs conſumption.

M. M. Veneſection. Warm bath. Emollient clyſters.

10. *Gaſtritis*. In inflammation of the ſtomach the pulſe is generally ſoft, probably occaſioned by the ſickneſs which attends it. The pain and heat of the ſtomach are increaſed by whatever is ſwallowed, with immediate rejection of it. Hiccough.

This diſeaſe may be occaſioned by acrid or indigeſtible matters taken into the ſtomach, which may chemically or mechanically injure its interior coat. There is however a ſlighter ſpecies of inflammation of this viſcus, and perhaps of all others, which is unattended by much fever; and which is ſometimes induced by drinking cold water, or eating

cold

cold inſipid food, as raw turnips, when the perſon has been much heated and fatigued by exerciſe. For when the ſenſorial power has been diminiſhed by great exertion, and the ſtomach has become leſs irritable by having been previouſly ſtimulated by much heat, it ſooner becomes quieſcent by the application of cold. In conſequence of this ſlight inflammation of the ſtomach an eruption of the face frequently enſues by the ſenſitive aſſociation of this viſcus with the ſkin, which is called a ſurfeit. See Claſs IV. 1. 2. 13. and II. 1. 4. 6. and II. 1. 3. 19.

M. M. Veneſection. Warm bath. Bliſter. Anodyne clyſters. Almond ſoap. See Claſs II. 1. 3. 17.

11. *Enteritis.* Inflammation of the bowels is often attended with ſoft pulſe, probably owing to the concomitant ſickneſs; which prevents ſometimes the early uſe of the lancet, to the deſtruction of the patient. At other times it is attended with ſtrong and full pulſe like other inflammations of internal membranes. Can the ſeat of the diſeaſe being higher or lower in the inteſtinal canal, that is, above or below the valve of the colon, produce this difference of pulſe by the greater ſympathy of one part of the bowels with the ſtomach than another? In enteritis with ſtrong pulſe the pain is great about the navel, with vomiting, and the greateſt difficulty in procuring a ſtool. In the other, the pain and fever are leſs, without vomiting, and with

 diarrhœa.

diarrhœa. Whence it appears, that the enteritis with hard quick pulſe differs from ileus, deſcribed in Claſs I. 3. 1. 6. only in the exiſtence of fever in the former and not in the latter, the other ſymptoms generally correſponding; and, ſecondly, that the enteritis with ſofter quick pulſe, differs from the cholera deſcribed in Claſs I. 3. 1. 5. only in the exiſtence of fever in the former, and not in the latter, the other ſymptoms being in general ſimilar. See Claſs II. 1. 3. 20.

Inflammation of the bowels ſometimes is owing to extraneous indigeſtible ſubſtances, as plum-ſtones, eſpecially of the damaſin, which has ſharp ends. Sometimes to an introſuſception of one part of the inteſtine into another, and very frequently to a ſtrangulated hernia or rupture. In reſpect to the firſt, I knew an inſtance where a damaſin ſtone, after a long period of time, found its way out of the body near the groin. I knew another child, who vomited ſome damaſin ſtones, which had lain for near twenty hours, and given great pain about the navel, by the exhibition of an emetic given in repeated doſes for about an hour. The ſwallowing of plum-ſtones in large quantities, and even of cherry-ſtones, is annually fatal to many children. In reſpect to the introſuſception and hernia, ſee Ileus, Claſs I. 3. 1. 6.

M. M. Repeated veneſection. Calomel from ten to twenty grains given in ſmall pills as in ileus; theſe means uſed early in the diſeaſe generally ſucceed.

ceed. After these evacuations a blister contributes to stop the vomiting. Warm bath. Crude mercury. Aloes one grain-pill every hour will frequently stay in the stomach. Glauber's salt dissolved in pepper-mint water given by repeated spoonfuls.

When the patient is much reduced, opium in very small doses may be given, as a quarter of a grain, as recommended in pleurisy. If the pain suddenly ceases, and the patient continues to vomit up whatever is given him, it is generally fatal; as it indicates, that a mortification of the bowel is already formed. Some authors have advised to join cathartic medicines with an opiate in inflammation of the bowels, as recommended in colica saturnina. This may succeed in slighter cases, but is a dangerous practice in general; since, if the obstruction be not removed by the evacuation, the stimulus of the opium is liable to increase the action of the vessels, and produce mortification of the bowel, as I think I have seen more than once. Mercury injected by the anus, or water by a forcing-pump. See Ileus I. 3. 1. 6.

12. *Hepatitis.* Inflammation of the liver is attended with strong quick pulse; tension and pain of the right side; often pungent as in pleurisy, oftener dull. A pain is said to affect the clavicle, and top of the right shoulder; with difficulty in lying

lying on the left ſide; difficult reſpiration; dry cough; vomiting; hiccough.

There is another hepatitis mentioned by authors, in which the fever, and other ſymptoms, are wanting, or are leſs violent; as deſcribed in Claſs II. 1. 4. 11. and which is probably ſometimes relieved by eruptions of the face; as in thoſe who are habituated to the intemperate uſe of fermented liquors.

M. M. Hepatic inflammation is very liable to terminate in ſuppuration, and the patient is deſtroyed by the continuance of a fever with ſizy blood, but without night-ſweats, or diarrhœa, as in other unopened abſceſſes. Whence copious and repeated veneſection is required early in the diſeaſe, with repeated doſes of calomel, and cathartics. Warm bath. Towards the end of the diſeaſe ſmall doſes of opium before the evening paroxyſms, and laſtly the Peruvian bark, and chalybeate wine, at firſt in ſmall doſes, as 20 drops twice a day, and afterwards, if neceſſary, in larger. See Art. IV. 2. 6.

Towards the end of hepatitis, after repeated veneſection and catharſis, an eruption ſometimes appears round the lips, which is generally a ſalutary ſymptom: and the decoction of Peruvian bark given at this time, in the quantity of about two ounces every ſix hours, removes the remaining inflammatory tendency, and cures in a day or two.

Mrs. C. a lady in the laſt month of her pregnancy, was ſeized with violent hepatitis, with ſymptoms

toms both of peripneumony and of pleurisy, for it seldom happens in violent inflammations, that one viscus alone is affected; she wanted then about a fortnight of her delivery, and after frequent venesection, with gentle cathartics, with fomentation or warm bath, she recovered and was safely delivered, and both herself and child did well. Rheumatic and eruptive fevers are more liable to induce abortion.

13. *Splenitis.* Inflammation of the spleen commences with tension, heat, and tumour of the left side, and with pain, which is increased by pressure. A case is described in Class I. 2. 3. 18. where a tumid spleen, attended with fever, terminated in scirrhus of that viscus.

14. *Nephritis.* Inflammation of the kidney seems to be of two kinds; each of them attended with different symptoms, and different modes of termination. One of them I suppose to be an inflammation of the external membrane of the kidney, arising from general causes of inflammation, and accompanied with pain in the loins without vomiting; and the other to consist in an inflammation of the interior parts of the kidney, occasioned by the stimulus of gravel in the pelvis of it, which is attended with perpetual vomiting, with pain along the course of the ureter, and retraction of the testis on that side, or numbness of the thigh.

The

The former of these kinds of nephritis is distinguished from lumbago by its situation being more exactly on the region of the kidney, and by its not being extended beyond that part; after three or four days I believe this inflammation is liable to change place; and that a herpes or erysipelas, called zona, or shingles, breaks out about the loins in its stead; at other times it is cured by a cathartic with calomel, with or without previous venesection.

The other kind of nephritis, or inflammation of the interior part of the kidney, generally arises from the pain occasioned by the stimulus of a stone entering the ureter from the pelvis of the kidney; and which ceases when the stone is protruded forwards into the bladder; or when it is returned into the pelvis of the kidney by the retrograde action of the ureter. The kidney is nevertheless inflamed more frequently, though in a less degree, from other causes; especially from the intemperate ingurgitation of ale, or other fermented or spirituous liquors. This less degree of inflammation is the cause of gravel, as that before mentioned is the effect of it. The mucus secreted to lubricate the internal surface of the uriniferous tubes of the kidney becomes secreted in greater quantity, when these vessels are inflamed; and, as the correspondent absorbent vessels act more energetically at the same time, the absorption of its more fluid parts is more powerfully effected; on both these accounts the mucus becomes

becomes both changed in quality and more indurated. And in this manner ſtones are produced on almoſt every mucous membrane of the body; as in the lungs, bowels, and even in the pericardium, as ſome writers have affirmed. See Claſs I. 1. 3. 9.

M. M. Veneſection. Ten grains of calomel given in ſmall pills, then infuſion of ſena with oil. Warm bath. Then opium a grain and half. See Claſs I. 1. 3. 9. for a further account of the method of cure.

15. *Cyſtitis.* Inflammation of the bladder is attended with tumor and pain of the lower part of the belly; with difficult and painful micturition; and teneſmus. It generally is produced by the exiſtence of a large ſtone in the bladder, when in a great degree; or is produced by common cauſes, when in a ſlighter degree.

The ſtone in the bladder is generally formed in the kidney, and paſſing down the ureter into the bladder becomes there gradually increaſed in ſize; and this moſt frequently by the appoſition of concentric ſpheres, as may be ſeen by ſawing ſome of the harder calculi through the middle, and poliſhing one ſurface. Theſe new concretions ſuperinduced on the nucleus, which deſcended from the kidney, as deſcribed in Claſs I. 1. 3. 9. and in the preceding article of this genus, is not owing to the microcoſmic ſalt, which is often ſeen to adhere to the

the ſides of chamber-pots, as this is ſoluble in warm water, but to the mucus of the bladder, as it rolls along the internal ſurface of it. Now when the bladder is ſlightly inflamed, this mucus of its internal ſurface is ſecreted in greater quantity, and is more indurated by the abſorption of its more liquid part at the inſtant of ſecretion, as explained in Claſs I. 1. 3. 9. and II. 1. 2. 14. and thus the ſtimulus and pain of a ſtone in the bladder contribute to its enlargement by inflaming the interior coat of it.

M. M. Veneſection. Warm bath. Diluents. Anodyne clyſters. See Claſs I. 1. 3. 9.

16. *Hyſteritis.* Inflammation of the womb is accompanied with heat, tenſion, tumour, and pain of the lower belly. The os uteri painful to the touch. Vomiting. This diſeaſe is generally produced by improper management in the delivery of pregnant women. I knew an unfortunate caſe, where the placenta was left till the next day; and then an unſkilful accoucheur introduced his hand, and forcibly tore it away; the conſequence was a moſt violent inflammatory fever, with hard throbbing pulſe, great pain, very ſizy blood, and the death of the patient. Some accoucheurs have had a practice of introducing their hand into the uterus immediately after the birth of the child, to take away the placenta; which they ſaid was to ſave time. Many women I believe have been victims to this unnatural practice.

Others have received injury, where inflammation has been beginning, by the univerſal practice of giving a large doſe of opium immediately on delivery, without any indication of its propriety; which, though a proper and uſeful medicine, where the patient is too feeble, when given in a ſmall doſe, as 10 drops of tincture of opium, or half a grain of ſolid opium, muſt do a proportionate injury, when it is given improperly; and as delivery is a natural proceſs, it is certainly more wiſe to give no medicines, except there be ſome morbid ſymptom, which requires it; and which has only been introduced into cuſtom by the ill-employed activity of the prieſts or prieſteſſes of LUCINA; like the concomitant nonſenſe of cramming rue or rhubarb into the mouth of the unfortunate young ſtranger, who is thus ſoon made to experience the evils of life. See Claſs II. 1. 1. 12. and I. 1. 2. 5. Juſt ſo ſome over-wiſe beldames force young ducks and turkeys, as ſoon as they are hatched, to ſwallow a pepper corn.

M. M. Veneſection repeatedly; diluents; fomentation; the patient ſhould be frequently raiſed up in bed for a ſhort time, to give opportunity of diſcharge to the putrid lochia; mucilaginous clyſters. See Febris Puerpera.

17. *Lumbago ſenſitiva.* Senſitive lumbago. When the extenſive membranes, or ligaments, which cover the muſcles of the back are torpid, as in

in the cold paroxyſm of ague, they are attended with pain in conſequence of the inaction of the veſſels, which compoſe them. When this inaction continues without a conſequent renewal or increaſe of activity, the diſeaſe becomes chronical, and forms the lumbago frigida, or irritativa, deſcribed in Claſs I. 2. 4. 16. But when this cold fit or torpor of theſe membranes, or ligaments or muſcles of the back, is ſucceeded by a hot fit, and conſequent inflammation, a violent inflammatory fever, with great pain, occurs, preventing the erect poſture of the body; and the affected part is liable to ſuppurate, in which caſe a very dangerous ulcer is formed, and a part of one of the vertebræ is generally found carious, and the patient ſinks after a long time under the hectic fever occaſioned by the aerated or oxygenated matter.

This diſeaſe bears no greater analogy to rheumatiſm than the inflammation of the pleura, or any other membranous inflammation; and has therefore unjuſtly been arranged under that name. It is diſtinguiſhed from nephritis, as it is ſeldom attended with vomiting, I ſuppoſe never, except the ureter happens to be inflamed at the ſame time.

The pain ſometimes extends on the outſide of the thigh from the hip to the ankle, heel, or toes, and is then called ſciatica; and has been thought to conſiſt in an inflammation of the theca, or covering of the ſciatic nerve, as the pain ſometimes ſo

 exactly

exactly attends the principal branches of that nerve. See Clafs I. 2. 4. 15. 16.

M. M. Venefection repeatedly; calomel; gentle cathartics; diluents; warm bath; poultice on the back, confifting of camomile flowers, turpentine, foap, and opium; a burgundy-pitch plafter. A debility of the inferior limbs from the torpor of the mufcles, which had previoufly been too much excited, frequently occurs at the end of this difeafe; in this cafe electricity, and iffues on each fide of the lumbar vertebræ, are recommended. See Clafs I. 2. 4. 16.

18. *Ifchias.* The ifchias confifts of inflammatory fever, with great pain about the pelvis, the os coccygis, and the heads of the thigh-bones, preventing the patient from walking or ftanding erect, with increafe of pain on going to ftool. This malady, as well as the preceding, has been afcribed to rheumatifm; with which it feems to bear no greater analogy, than the inflammations of any other membranes.

The patients are left feeble, and fometimes lame after this difeafe; which is alfo fometimes accompanied with great flow of urine, owing to the defective abforption of its aqueous parts; and with confequent thirft occafioned by the want of fo much fluid being returned into the circulation; a lodgment of fæces in the rectum fometimes occurs after

after this complaint from the leſſened ſenſibility of it. See Claſs I. 2. 4. 15.

M. M. Veneſection; gentle cathartics; diluents; fomentation; poultice with camomile flowers, turpentine, ſoap, and opium; afterwards the bark. See Claſs I. 1. 3. 5.

When this inflammation terminates in ſuppuration the matter generally can be felt to fluctuate in the groin, or near the top of the thigh. In this circumſtance, my friend Mr. Bent, ſurgeon, near Newcaſtle in Staffordſhire, propoſes to tap the abſceſs by means of a trocar, and thus as often as neceſſary to diſcharge the matter without admitting the air. Might a weak injection of wine and water, as in the hydrocele, be uſed with great caution to inflame the walls of the abſceſs, and cauſe them to unite? See Claſs II. 1. 6. 9.

19. *Paronychia interna.* Inflammation beneath the finger-nail. The pain occaſioned by the inflammatory action and tumor of parts bound down between the nail on one ſide and the bone on the other, neither of which will yield, is ſaid to occaſion ſo much pain as to produce immediate delirium, and even death, except the parts are divided by a deep inciſion; which muſt paſs quite through the perioſteum, as the inflammation is ſaid generally to exiſt beneath it. This diſeaſe is thus reſembled by the proceſs of toothing in young

 children;

children; where an extraneous body lodged beneath the periosteum induces pain and fever, and sometimes delirium, and requires to be set at liberty by the lancet.

ORDO I.

Increaſed Senſation.

GENUS III.

With the Production of new Veſſels by external Membranes or Glands, with Fever.

THE diſeaſes of this genus are perhaps all productive of contagious matter; or which becomes ſo by its expoſure to the air, either through the cuticle, or by immediate contact with it; ſuch are the matters of the ſmall-pox and meaſles. The purulent matter formed on parts covered from the air by thicker membranes or muſcles, as in the preceding genus, does not induce fever, and cannot therefore be called contagious; but it acquires this property of producing fever in a few hours, after the abſceſs has been opened, ſo as to admit the air to its ſurface, and may then be ſaid to conſiſt of contagious miaſmata. This kind of contagious matter only induces fever, but does not produce other matter with properties ſimilar to its own; and in this reſpect it differs from the contagious miaſmata of ſmall-pox or meaſles, but reſembles thoſe which have their origin in crowded jails; for theſe produce fever only, which frequently deſtroys the patient; but do not produce other matters ſimilar to themſelves; as appears from none

none of those who died of the jail-fever, caught at the famous black assizes at Oxford, at the beginning of this century, having infected their physicians or attendants.

If indeed the matter has continued so long as to become putrid, and thus to have given out air from a part of it, it acquires the power of producing fever; in the same manner as if the ulcer had been opened, and exposed to the common air; instances of which are not unfrequent. And from these circumstances it seems probable, that the matters secreted by the new vessels formed in all kinds of phlegmons, or pustules, are not contagious, till they have acquired something from the atmosphere, or from the gas produced by putrefaction; which will account for some phenomena in the lues venerea, cancer, and of other contagious secretions on the skin without fever, to be mentioned hereafter. See Class II. 1. 4. 14.

The theory of contagion has been perplexed by comparing it with fermenting liquors; but the contagious material is shewn in Section XXXIII. to be produced like other secreted matters by certain animal motions of the terminations of the vessels. Hence a new kind of gland is formed at the terminations of the vessels in the eruptions of the small-pox; the animal motions of which produce from the blood variolous matter; as other glands produce bile or saliva. Now if some of this matter is introduced beneath the cuticle of a

healthy perſon, or enters the circulation, and excites the extremities of the blood-veſſels into thoſe kinds of diſeaſed motions, by which it was itſelf produced, either by irritation or aſſociation, theſe diſeaſed motions of the extremities of the veſſels will produce other ſimilar contagious matter. See Sect. XXXIII. 2. 5. and 9. Hence contagion ſeems to be propagated two ways; one, by the ſtimulus of contagious matter applied to the part, which by an unknown law of nature excites the ſtimulated veſſels to produce a ſimilar matter; as in venereal ulcers, which thus continue to ſpread; or as when variolous matter is inſerted beneath the cuticle; or when it is ſuppoſed to be abſorbed, and diffuſed over the body mixed with the blood, and applied in that manner to the cutaneous glands. The other way, by which contagion ſeems to be diffuſed, is by ſome diſtant parts ſympathizing or imitating the motions of the part firſt affected; as the ſtomach and ſkin in the eruptions of the inoculated ſmall-pox, or in the bite of a mad dog; as treated of in Sect. XXII. 3. 3.

In ſome of the diſeaſes of this genus, the pulſe is ſtrong, full, and hard, conſtituting the ſenſitive irritated fever, as deſcribed in the preceding genus; as in one kind of eryſipelas, which requires repeated veneſection. In others the arterial action is ſometimes moderate, ſo as to conſtitute the ſenſitive fever, as in the inoculated ſmall-pox; where the action of the arteries is neither increaſed by the

the ſenſorial power of irritation, as in the ſenſitive irritated fever; nor decreaſed by the defect of that power, as in the ſenſitive inirritated fever. But in the greateſt number of the diſeaſes of this genus the arterial action is greatly diminiſhed in reſpect to ſtrength, and conſequently the frequency of pulſation is proportionally increaſed, as explained in Sect. XXXII. 2. 1. Which is owing to the deficiency of the ſenſorial power of irritation joined with the increaſe of that of ſenſation, and thus conſtitutes the ſenſitive inirritated fever; as in ſcarlatina with gangrenous tonſils.

From this great debility of the action of the arteries, there appears to be leſs of the coagulable lymph or mucus ſecreted on their internal ſurfaces; whence there is not only a defect of that buff or ſize upon the blood, which is ſeen on the ſurface of that which is drawn in the ſenſitive irritated fever; but the blood, as it cools, when it has been drawn into a baſin, ſcarcely coagulates; and is ſaid to be diſſolved, and is by ſome ſuppoſed to be in a ſtate of actual putrefaction. See Sect. XXXIII. 1. 3. where the truth of this idea is controverted. But in the fevers of both this genus and the preceding one, great heat is produced from the chemical combinations in the ſecretions of new veſſels and fluids, and pain or uneaſineſs from the diſtention of the old ones; till towards the termination of the diſeaſe ſenſation ceaſes, as well as

 irritation,

irritation, with the mortification of the affected parts, and the death of the patient.

Dysenteria, as well as tonsillitis and aphtha, are enumerated amongst the diseases of external membranes, because they are exposed either to the atmospheric air, which is breathed and swallowed with our food and saliva; or they are exposed to the inflammable air, or hydrogen, which is generated in the intestines; both which contribute to produce or promote the contagious quality of these fluids; as mentioned in Class II. 1. 6.

It is not speaking accurate language, if we say, that, in the diseases of this genus the fever is contagious; since it is the material produced by the external membranes which is contagious, after it has been exposed to air; while the fever is the consequence of this contagious matter, and not the cause of it. As appears from the inoculated small-pox, in which the fever does not commence, till after suppuration has taken place in the inoculated arm, and from the diseases of the fifth genus of this order, where contagion exists without fever. See Class II. 1. 5. and II. 1. 3. 18.

The existence of contagious miasmata in the atmosphere was believed even in the time of Homer, and was allegorized under the title of the arrows of Apollo. See catarrhus contagiosus, II. 1. 3. 6. Of these it is probable, that some contagious matters are only diffused in the atmosphere,

ſphere, as that of the ſmall-pox, as it ſeems only to infect thoſe who are very near the variolous patient; and ſeems to be ſwallowed with the ſaliva, and thence to affect the tonſils. Other contagions may be diſſolved in the atmoſphere, as that of the meaſles, and of epidemic catarrhs, which therefore firſt affect the membranes of the noſtrils in men, and of the maxillary ſinuſes alſo in dogs and horſes.

Contagious materials have been alſo believed from remote antiquity to lodge in the walls of rooms where the ſick have been confined; as in the wards of hoſpitals, jails, ſhips, as well as in the bedding or clothes of the infected. The methods of purifying infected houſes ſeem alſo to have been ſtudied in the remoteſt times; the Levitical law directs the walls of the houſe of a leprous perſon to be ſcraped; and in modern times white-waſhings with lime and painting with oil have been directed, I believe with great ſucceſs.

Mr. Cruickſhank has lately recommended two or three parts of ſulphur with one of nitre to be mixed together, and ſet in a room cloſe ſhut up, and ignited by dropping a lighted coal upon it; as the nitre will ſupply ſufficient oxygen to inflame the ſulphur in a cloſe apartment, and thus to fill the whole with the ſulphurous vapour; ſo as to paſs into every minute aperture of the walls or furniture.

Another means of ſweetening the air of hoſpitals, where many ulcerous patients are crowded together,

together, has been alſo recommended, and might perhaps be uſed with ſalutary effect to reſtore the air of play-houſes, churches, cloſe parlours, courts of law, and other places, where many people reſort without due ventilation, which conſiſts in well mixing four ounces of common ſalt with two ounces of pulverized mangane ſe in a baſin, to theſe are then to be added about two ounces of water, and afterwards three ounces of concentrated ſulphuric acid, in ſmall portions at a time; and when managed in this way the gas is ſaid not to be in the leaſt offenſive itſelf, and at the ſame time deſtroys diſagreeable ſmells, and perhaps alſo infectious miaſmata. Medical Review, No. 32.

The white vapours, not the red ones, of nitrous acid have been employed with wonderful ſucceſs, by Dr. C. Smyth, in the hoſpital ſhips, without removing the patients; ſome ſand is made hot in crucibles, many of which are brought into the rooms to be fumigated; in this hot ſand is then ſet a tea-cup containing about half an ounce of concentrated vitriolic acid, to which, after it had acquired a proper heat, an equal quantity of nitre in powder is gradually added, and the mixture ſtirred with a glaſs ſpatula, till the vapour ariſes from it in conſiderable quantity. The crucible or pipkin is then carried about the wards by the nurſes or convaleſcents, who walk about with them, like incenſe-pots, in their hands, and by thus fumigating the ſhip morning and night, with the care of waſh-

ing

ing the beds and clothes, and expoſing them to the air, the contagion appeared to be quickly ſtopped, and the patients already affected ſoon recovered.

If any metallic veſſel be uſed, the white nitrous vapour becomes red, and what was ſalutary before becomes now noxious, as is obſerved by Mr. Keir, in his letter on this ſubject, who adds, that though much vital air is extricated from the mixture, he rather aſcribes its good effect to the known property of all mineral acids in ſtopping the proceſſes of fermentation and putrefaction; as the contagious miaſmata are preſumed to conſiſt of animal matter in ſome vicious kind of fermentation. Medical Review, Vol. III. p. 17.

SPECIES.

1. *Febris ſenſitiva inirritata.* Senſitive inirritated fever. Typhus gravior. Putrid malignant fever. Jail fever. The immediate cauſe of this diſeaſe is the increaſe of the ſenſorial power of ſenſation, joined with the decreaſe of the ſenſorial power of irritation; that is, it conſiſts in the febris ſenſitiva joined with the febris inirritativa of Claſs I. 2. 1. 1. as the febris ſenſitiva irritata of the preceding genus conſiſts of the febris ſenſitiva joined with the febris irritativa of Claſs I. 1. 1. 1. In both which the words irritata, and inirritata, are deſigned to expreſs more or leſs irritation than the natural quantity; and

and the ſame when applied to ſome of the diſeaſes of this genus.

This fever is frequently accompanied with topical inflammation, which is liable, if the arterial ſtrength is not ſupported, to end in ſphacelus; and as mortified parts, ſuch as ſloughs of the throat, if they adhere to living parts, ſoon become putrid from the warmth and moiſture of their ſituation; theſe fevers have been termed putrid, and have been thought to owe their cauſe to what is only their conſequence. In hot climates this fever is frequently induced by the exhalations of ſtagnating lakes or marſhes, which abound with animal ſubſtances; but which in colder countries produce fevers with debility only, as the quartan ague, without inflammation.

The ſenſitive inirritated, or malignant, fever is alſo frequently produced by the putrid exhalations and ſtagnant air in priſons; but perhaps moſt frequently by contact or near approach of the perſons who have reſided in them. Theſe cauſes of malignant fevers contributed to produce, and to ſupport for a while, the ſeptic and antiſeptic theory of them; ſee Sect. XXXIII. 1. 3. The vibices or bruiſes, and petechiæ or purples, were believed to be owing to the diſſolved ſtate of the blood by its incipient putrefaction; but hydroſtatical experiments have been made, which ſhew the ſizy blood of the patient in ſenſitive irritated or inflammatory

fever,

fever, with ſtrong pulſe, is more fluid, while it is warm, than this uncoagulable blood taken in this ſenſitive inirritated, or malignant fever; from whence it is inferred, that theſe petechiæ, and vibices, are owing to the deficient power of abſorption in the terminations of the veins. See Claſs I. 2. 1. 5.

This ſenſitive inirritated fever, or typhus gravior, is diſtinguiſhed from the inirritative fever, or typhus mitior, in the early ſtages of it, by the colour of the ſkin; which in the latter is paler, with leſs heat, owing to the leſs violent action of the capillaries; in this it is higher coloured, and hotter, from the greater energy of the capillary action in the production of new veſſels. In the more advanced ſtate petechiæ, and the production of contagious matter from inflamed membranes, as the aphthæ of the mouth, or ulcers of the throat, diſtinguiſh this fever from the former. Delirium, and dilated pupils of the eyes, are more frequent in nervous fevers; and ſtupor with deafneſs a more frequent attendant on malignant fevers. See Claſs I. 2. 5. 6.

There is another criterion diſcernible by the touch of an experienced finger; and that is, the coat of the artery in inflammatory fevers, both thoſe attended with ſtrength of pulſation, and theſe with weak pulſation, feels harder, or more like a cord; for the coats of the arteries in theſe fevers are themſelves inflamed, and are conſe-

quently turgid with blood, and thence are leſs eaſily compreſſed, though their pulſations are nevertheleſs weak: when the artery is large or full with an inflamed coat, it is called hard; and when ſmall or empty with an inflamed coat, it is called ſharp, by many writers.

M. M. The indications of cure conſiſt, 1. In procuring a regurgitation of any offenſive material, which may be lodged in the long mouths of the lacteals or lymphatics, or in their tumid glands. 2. To excite the ſyſtem into neceſſary action by the repeated exhibition of nutrientia, ſorbentia, and incitantia; and to preſerve the due evacuation of the bowels. 3. To prevent any unneceſſary expenditure of ſenſorial power. 4. To prevent the formation of ulcers, or to promote the abſorption in them, for the purpoſe of healing them.

1. One ounce of wine of ipecacuanha, or about ten grains of the powder, ſhould be given as an emetic. After a few hours three or four grains of calomel ſhould be given in a little mucilage, or conſerve. Where ſomething ſwallowed into the ſtomach is the cauſe of the fever, it is liable to be arreſted by the lymphatic glands, as the matter of the ſmall-pox inoculated in the arm is liable to be ſtopped by the axillary lymphatic gland; in this ſituation it may continue a day or two, or longer, and may be regurgitated during the operation of an emetic or cathartic into the ſtomach or bowel, as evidently happens on the exhibition of calomel,

as explained in Sect. XXIX. 7. 2. For this reason an emetic and cathartic, with venesection, if indicated by the hardness and fulness of the pulse, will very frequently remove fevers, if exhibited on the first, second, or even third day.

2. Wine and opium, in small doses repeated frequently, but so that not the least degree of intoxication follows, for in that case a greater degree of debility is produced from the expenditure of sensorial power in unnecessary motions. Many weak patients have been thus stimulated to death. See Sect. XII. 7. 8. The Peruvian bark should be given also in repeated doses in such quantity only as may strengthen digestion, not impede it. For these purposes two ounces of wine, or of ale, or cyder, should be given every six hours; and two ounces of decoction of bark, with two drachms of the tincture of bark, and six drops of tincture of opium, should be given also every six hours alternately; that is, each of them four times in twenty-four hours. As much rhubarb as may induce a daily evacuation, should be given to remove the colluvies of indigested materials from the bowels; which might otherwise increase the distress of the patient by the air it gives out in putrefaction, or by producing a diarrhœa by its acrimony; the putridity of the evacuations is owing to the total inability of the digestive powers; and their delay in the intestines, to the inactivity

inactivity of that canal in respect to its peristaltic motions.

The quantities of wine or beer and opium, and bark, above-mentioned, may be increased by degrees, if the patient seems refreshed by them; and if the pulse becomes slower on their exhibition; but this with caution, as I have seen irrecoverable mischief done by greater quantities both of opium, wine, and bark, in this kind of fever; in which their use is to strengthen the digestion of the weak patient, rather than to stop the paroxysms of fever; but when they are administered in intermittents, much larger quantities are necessary.

The stimulus of small blisters applied in succession, one every three or four days, when the patient becomes weak, is of great service by strengthening digestion, and by preventing the coldness of the extremities, owing to the sympathy of the skin with the stomach, and of one part of the skin with another.

In respect to nutriment, the patient should be supplied with wine and water, with toasted bread, and sugar or spice in it; or with sago with wine; fresh broth with turnips, cellery, parsley; fruit; new milk. Tea with cream and sugar; bread-pudding, with lemon-juice and sugar; chicken, fish, or whatever is grateful to the palate of the sick person, in small quantity repeated frequently; with small

ſmall beer, cider and water, or wine and water, for drink, which may be acidulated with acid of vitriol in ſmall quantities.

3. All unneceſſary motions are to be checked, or prevented. Hence horizontal poſture, obſcure room, ſilence, cool air. All the parts of the ſkin, which feel too hot to the hand, ſhould be expoſed to a current of cool air, or bathed with cold water, whether there are eruptions on it or not. Waſh the patient twice a day with cold vinegar and water, or cold ſalt and water, or cold water alone, by means of a ſponge. If ſome parts are too cold, as the extremities, while other parts are too hot, as the face or breaſt, cover the cold parts with flannel, and cool the hot parts by a current of cool air, or bathing them as above.

4. For the healing of ulcers, if in the mouth, ſolution of alum in water about 40 grains to an ounce, or of blue vitriol in water, one grain or two to an ounce may be uſed to touch them with three or four times a day. Of theſe perhaps a ſolution of alum is to be preferred, as it inſtantly takes away the ſtench from ulcers I ſuppoſe by combining with the volatile alcali which attends it. For this purpoſe a ſolution of alum of an ounce to a pint of water ſhould be frequently injected by means of a ſyringe into the mouth. If there are ulcers on the external ſkin, fine powder of bark ſeven parts, and ceruſſa in fine powder one

part, ſhould be mixed, and applied dry on the ſore, and kept on by lint, and a bandage.

As ſloughs in the mouth are frequently produced by the previous dryneſs of the membranes which line it, this dryneſs ſhould be prevented by frequently moiſtening them, which may be effected by injection with a ſyringe, or by a moiſt ſponge, or laſtly in the following manner. Place a glaſs of wine and water, or of milk and ſugar, on a table by the bedſide, a little above the level of the mouth of the patient; then, having previouſly moiſtened a long piece of narrow liſting, or cloth, or flannel, with the ſame liquor, leave one end of it in the glaſs, and introduce the other into the mouth of the patient; which will thus be ſupplied with a conſtant oozing of the fluid through the cloth, which acts as a capillary ſyphon.

The viſcid phlegm, which adheres to the tongue, ſhould be coagulated by ſome auſtere acid, as by lemon-juice evaporated to half its quantity, or by crab-juice; and then it may be ſcraped off by a knife, or rubbed off by flannel, or a ſage-leaf dipped in vinegar, or in ſalt and water.

2. *Eryſipelas*, St. Anthony's fire, may be divided into three kinds, which differ in their method of cure, the irritated, the inirritated, and the ſenſitive eryſipelas.

Eryſipelas irritatum is attended with increaſe of irritation

irritation besides increase of sensation; that is, with strong, hard and full pulse, which requires frequent venesection, like other inflammations with arterial strength. It is distinguished from the phlegmonic inflammations of the last genus by its situation on the external habit, and by the redness, heat, and tumour, not being distinctly circumscribed; so that the eye or finger cannot exactly trace the extent of them.

When the external skin is the seat of inflammation, and produces sensitive irritated fever, no collection of matter is formed, as when a phlegmon is situated in the cellular membrane beneath the skin; but the cuticle rises as beneath a blister-plaster, and becomes ruptured; and a yellow material oozes out, and becomes inspissated, and lies upon its surface; as is seen in this kind of erysipelas, and in the confluent small-pox; or if the new vessels are reabsorbed the cuticle peels off in scales. This difference of the termination of erysipelatous and phlegmonic inflammation seems to be owing in part to the less distensibility of the cuticle than of the cellular membrane, and in part to the ready exhalation of the thinner parts of the secreted fluids through its pores.

This erysipelas is generally preceded by a fever for two or three days before the eruption, which is liable to appear in some places, as it declines in others; and seems frequently to arise from a previous scratch or injury of the skin; and is attended

ſometimes with inflammation of the cellular membrane beneath the ſkin; whence a real phlegmon and collection of matter become joined to the eryſipelas, and either occaſion or increaſe the irritated fever, which attends it.

There is a greater ſympathy between the external ſkin and the meninges of the brain, than between the cellular membrane and thoſe meninges; whence eryſipelas is more liable to be preceded, or attended, or ſucceeded, by delirium than internal phlegmons. I except the mumps, or parotitis, deſcribed below; which is properly an external gland, as its excretory duct opens into the air. When pain of the head or delirium precedes the cutaneous eruption of the face, there is ſome reaſon to believe, that the primary diſeaſe is a torpor of the meninges of the brain; and that the ſucceeding violent action is transferred to the ſkin of the face by ſenſitive aſſociation; and that a ſimilar ſympathy occurs between ſome internal membranes and the ſkin over them, when eryſipelas appears on other parts of the body. If this circumſtance ſhould be ſupported by further evidence, this diſeaſe ſhould be removed into Claſs IV. along with the rheumatiſm and gout. See Claſs IV. 1. 2. 17.

This ſuppoſed retropulſion of eryſipelas on the brain from the frequent appearance of delirium, has prevented the free uſe of the lancet early in this diſeaſe to the deſtruction of many; as it has prevented the ſubduing of the general inflammation,

tion, and thus has in the end produced the particular one on the brain. Mr. B——, a delicate gentleman about ſixty, had an eryſipelas beginning near one ear, and extending by degrees over the whole head, with hard, full, and ſtrong pulſe; blood was taken from him four or five times in conſiderable quantity, with gentle cathartics, with calomel, diluents, and cool air, and he recovered without any ſigns of delirium, or inflammation of the meninges of the brain. Mr. W———, a ſtrong corpulent man of inferior life, had eryſipelas over his whole head, with ſtrong hard pulſe: he was not evacuated early in the diſeaſe through the timidity of his apothecary, and died delirious. Mrs. F—— had eryſipelas on the face, without either ſtrong or weak pulſe; that is, with ſenſitive fever alone, without ſuperabundance or deficiency of irritation; and recovered without any but natural evacuations. From theſe three caſes of eryſipelas on the head, it appears that the evacuations by the lancet muſt be uſed with courage, where the degree of inflammation requires it; but not where this degree of inflammation is ſmall, nor in the eryſipelas attended with inirritation, as deſcribed below.

M. M. Veneſection repeated according to the degree of inflammation. An emetic. Calomel, three grains every other night. Cool air. Diluents, emetic tartar in ſmall doſes, as a quarter of

a grain every ſix hours. Tea, weak broth, gruel, lemonade, neutral ſalts. See Sect. XII. 6.

Such external applications as carry away the heat of the ſkin may be of ſervice, as cold water, cold flour, ſnow, ether. Becauſe theſe applications impede the exertions of the ſecerning veſſels, which are now in too great action; but any applications of the ſtimulant kind, as ſolutions of lead, iron, copper, or of alum, uſed early in the diſeaſe, muſt be injurious; as they ſtimulate the ſecerning veſſels, as well as the abſorbent veſſels, into greater action; exactly as occurs when ſtimulant eye-waters are uſed too ſoon in ophthalmy. See Claſs II. 1. 2. 2. But as the cuticle peels off in this caſe after the inflammation ceaſes, it differs from ophthalmy; and ſtimulant applications are not indicated at all, except where ſymptoms of gangrene appear. For as a new cuticle is formed under the old one, as under a bliſter, the ſerous fluid between them is a defence to the new cuticle, and ſhould dry into a ſcab by exhalation rather than be reabſorbed. Hence we ſee how greaſy or oily applications, and even how moiſt ones, are injurious in eryſipelas; becauſe they prevent the exhalation of the ſerous effuſion between the old and new cuticle, and thus retard the formation of the latter.

Eryſipelas inirritatum differs from the former in its being attended with weak pulſe, and other ſymptoms of ſenſitive inirritated fever. The feet and legs

are particularly liable to this eryſipelas, which precedes or attends the ſphacelus or mortification of thoſe parts. A great and long coldneſs firſt affects the limb, and the eryſipelas on the ſkin ſeems to occur in conſequence of the previous torpor of the interior membranes. As this generally attends old age, it becomes more dangerous in proportion to the age, and alſo to the habitual intemperance of the patient in reſpect to the uſe of fermented or ſpirituous liquor.

When the former kind, or irritated eryſipelas, continues long, the patient becomes ſo weakened as to be liable to all the ſymptoms of this inirritated eryſipelas; eſpecially where the meninges of the brain are primarily affected. As in that caſe, after two or three efforts have been made to remove the returning periods of torpor of the meninges to the external ſkin, thoſe meninges become inflamed themſelves, and the patient ſinks under the diſeaſe; in a manner ſimilar to that in old gouty patients, where the torpor of the liver or ſtomach is relieved by aſſociation of the inflammation of the membranes of the feet, and then of other joints, and laſtly the power of aſſociation ceaſing to act, but the exceſs of ſenſation continuing, the liver or ſtomach remains torpid, or becomes itſelf inflamed, and the patient is deſtroyed.

M. M. Where there exiſts a beginning gangrene of the extremities, the Peruvian bark, and wine, and opium, are to be given in large quantities; ſo as to ſtrengthen the patient, but not to

intoxicate, or to impede his digeſtion of aliment, as mentioned in the firſt ſpecies of this genus. Claſs II. 1. 2. 1. But where the brain is inflamed or oppreſſed, which is known either by delirium, with quick pulſe; or by ſtupor, and ſlow reſpiration with ſlow pulſe; other means muſt be applied. Such as, firſt, a fomentation on the head with warm water, with or without aromatic herbs, or ſalt in it, ſhould be continued for an hour or two at a time, and frequently repeated. A bliſter may alſo be applied on the head, and the fomentation nevertheleſs occaſionally repeated. Internally very gentle ſtimulants, as camphor one grain or two in infuſion of valerian. Wine and water, or ſmall beer, weak broth. An enema. Six grains of rhubarb and one of calomel. Afterwards five drops of tincture of opium, which may be repeated every ſix hours, if it ſeems of ſervice. Might the head be bathed for a minute with cold water? or with ether? or vinegar?

Eryſipelas ſenſitivum is a third ſpecies, differing only in the kind of fever which attends it, which is ſimply inflammatory, or ſenſitive, without either exceſs of irritation, as in the firſt variety; or the defect of irritation, as in the ſecond variety: all theſe kinds of eryſipelas are liable to return by periods in ſome people, who have paſſed the middle of life, as at periods of a lunation, or two lunations, or at the equinoxes. When theſe periods of eryſipelas happen to women, they ſeem to ſupply the place

place of the receding catamenia; when to men, I have ſometimes believed them to be aſſociated with a torpor of the liver; as they generally occur in thoſe who have drunk vinous ſpirit exceſſively, though not opprobriouſly; and that hence they ſupply the place of periodical piles, or gout, or gutta roſea.

M. M. As the fever requires no management, the diſeaſe takes its progreſs ſafely, like a moderate paroxyſm of the gout; but in this caſe, as in ſome of the former, the eryſipelas does not appear to be a primary diſeaſe, and ſhould perhaps be removed to the Claſs of Aſſociation.

3. *Tonſillitis.* Inflammation of the tonſils. The uncouth term Cynanche has been uſed for diſeaſes ſo diſſimilar, that I have divided them into Tonſillitis and Parotitis; and hope to be excuſed for adding a Greek termination to a Latin word, as one of thoſe languages may juſtly be conſidered as a dialect of the other. By tonſillitis the inflammation of the tonſils is principally to be underſtood; but as all inflammations generally ſpread further than the part firſt affected; ſo, when the ſummit of the windpipe is alſo much inflamed, it may be termed tonſillitis trachealis, or croup. See Claſs I. 1. 3. 4. and II. 1. 2. 4.; and when the ſummit of the gullet is much inflamed along with the tonſil, it may be called tonſillitis pharyngea, as deſcribed in Dr. Cullen's Noſologia, Genus X. p. 92.

p. 92. The inflammation of the tonſils may be divided into three kinds, which require different methods of cure.

Tonſillitis interna. Inflammation of the internal tonſil. When the ſwelling is ſo conſiderable as to produce difficulty of breathing, the ſize of the tonſil ſhould be diminiſhed by cutting it with a proper lancet, which may either give exit to the matter it contains, or may make it leſs by diſcharging a part of the blood. This kind of angina is frequently attended with irritated fever beſides the ſenſitive one, which accompanies all inflammation, and ſometimes requires veneſection. An emetic ſhould be given early in the diſeaſe, as by its inducing the retrograde action of the veſſels about the fauces during the nauſea it occaſions, it may eliminate the very cauſe of the inflammation; which may have been taken up by the abſorbents, and ſtill continue in the mouths of the lymphatics or their glands. The patient ſhould then be induced to ſwallow ſome aperient liquid, as an infuſion of ſenna, ſo as to induce three or four evacuations. Gargles of all kinds are rather hurtful, as the action of uſing them is liable to give pain to the inflamed parts; but the patients find great relief from frequently holding warm water in their mouths, and putting it out again, or by ſyringing warm water into the mouth, as this acts like a warm bath, or fomentation to the inflamed part. Laſtly, ſome mild ſtimulant, as a weak ſolution of ſalt and water,

ter, or of white vitriol and water, may be ufed to wafh the fauces with in the decline of the difeafe, to expedite the abforption of the new veffels, if neceffary, as recommended in ophthalmy.

Tonfillitis fuperficialis. Inflammation of the furface of the tonfils. As the tonfils and parts in their vicinity are covered with a membrane, which though expofed to currents of air, is neverthelefs conftantly kept moift by mucus and faliva, and is liable to difeafes of its furface like other mucous membranes, as well as to fuppuration of the internal fubftance of the gland; the inflammation of its furface is fucceeded by fmall elevated puftules with matter in them, which foon difappears, and the parts either readily heal, or ulcers covered with floughs are left on the furface.

This difeafe is generally attended with only fenfitive fever, and therefore is of no danger, and may be diftinguifhed with great certainty from the dangerous inflammation or gangrene of the tonfils at the height of the fmall-pox, or fcarlet fever, by its not being attended with other fymptoms of thofe difeafes. One emetic and a gentle cathartic is generally fufficient; and the frequent fwallowing of weak broth, or gruel, both without falt in them, relieves the patient, and abfolves the cure. When thefe tumours of the tonfils frequently return I have fometimes fufpected them to originate from the abforption of putrid matter

from

from decaying teeth. See Clafs I. 2. 3. 21. and II. 2. 2. 1.

Tonfillitis inirritata. Inflammation of the tonfils with fenfitive inirritated fever is a fymptom only of contagious fever, whether attended with fcarlet eruption, or with confluent fmall-pox, or otherwife. The matter of contagion is generally diffufed, not diffolved in the air; and as this is breathed over the mucaginous furface of the tonfils, the contagious atoms are liable to be arrefted by the tonfil; which therefore becomes the neft of the future difeafe, like the inflamed circle round the inoculated puncture of the arm in fuppofititious fmall-pox. The fwelling is liable to fuffocate the patient in fmall-pox, and to become gangrenous in fcarlet fever, and fome other contagious fevers, which have been received in this manner. The exiftence of inflammation of the tonfil previous to the fcarlet eruption, as the arm inflames in the inoculated fmall-pox, and fuppurates before the variolous eruption, fhould be a criterion of the fcarlet fever being taken in this manner.

M. M. All the means which ftrengthen the patient, as in the fenfitive inirritated fever, Clafs II. 1. 2. 1. As it is liable to continue a whole lunation or more, great attention fhould be ufed to nourifh the patient with acidulous and vinous panada, broth with vegetables boiled in it, fugar, cream, beer; all which given frequently will contribute

tribute much to moisten, clean, and heal the ulcuscles, or sloughs, of the throat; warm water and wine, or acid of lemon, should be frequently applied to the tonsils by means of a syringe, or by means of a capillary syphon, as described in Class II. 1. 2. 1. A slight solution of blue vitriol, as two grains to an ounce, or a solution of sugar of lead of about six grains to an ounce, may be of service; especially the latter, applied to the edges of the sloughs, drop by drop by means of a small glass tube, or small crow-quill with the end cut off, or by a camel's-hair pencil or sponge; to the end of either of which a drop will conveniently hang by capillary attraction; as solutions of lead evidently impede the progress of erysipelas on the exterior skin, when it is attended with feeble pulse. Yet a solution of alum injected frequently by a syringe is perhaps to be preferred, as it immediately removes the fetor of the breath, which must much injure the patient by its being perpetually received into the lungs by respiration.

4. *Parotitis.* Mumps, or branks, is a contagious inflammation of the parotis and maxillary glands, and has generally been classed under the word Cynanche or Angina, to which it bears no analogy. It divides itself into two kinds, which differ in the degree of fever which attends them, and in the method of cure.

Parotitis

Parotitis ſuppurans. The ſuppurating mumps is to be diſtinguiſhed by the acuteneſs of the pain, and the ſenſitive, irritated, or inflammatory fever, which attends it.

M. M. Veneſection. Cathartic with calomel three or four grains repeatedly. Cool air, diluents. This antiphlogiſtic treatment is to be continued no longer than is neceſſary to relieve the violence of the pain, as the diſeaſe is attended with contagion, and muſt run through a certain time, like other fevers with contagion.

Parotitis mutabilis. Mutable parotitis. A ſenſitive fever only, or a ſenſitive irritated fever, generally attends this kind. And when the tumour of the parotis and maxillary glands ſubſides, a new ſwelling occurs in ſome diſtant part of the ſyſtem; as happens to the hands and feet, at the commencement of the ſecondary fever of the ſmall-pox, when the tumor of the face ſubſides. This new ſwelling in the parotitis mutabilis is liable to affect the teſtes in men, and form a painful tumor, which ſhould be prevented from ſuppuration by very cautious means, if the violence of the pain threaten ſuch a termination; as by bathing the part with coldiſh water for a time, veneſection, a cathartic; or by a bliſter on the perinæum, or ſcrotum, or a poultice.

When women are affected with this complaint, after the ſwelling of the parotis and maxillary glands

glands subsides, tumor with pain is liable to affect their breasts; which, however, I have never seen terminate in suppuration.

On the retrocession of the tumor of the testes above described, and I suppose of that of the breasts in women, a delirium of the calm kind is very liable to occur; which in some cases has been the first symptom which has alarmed the friends of the patient; and it has thence been difficult to discover the cause of it without much inquiry; the previous symptoms having been so slight as not to have occasioned any complaints. In this delirium, if the pulse will bear it, venesection should be used, and three or four grains of calomel, with fomentation of the head with warm water for an hour together every three or four hours.

Though this disease generally terminates favourably, considering the numbers attacked by it, when it is epidemic, yet it is dangerous at other times in every part of its progress. Sometimes the parotis or maxillary glands suppurate, producing ulcers which are difficult to cure, and frequently destroy the patient, where there was a previous scrofulous tendency. The testis in men is also liable to suppurate with great pain, long confinement, and much danger; and lastly, the affection of the brain is fatal to many.

Mr. W. W. had a swelled throat, which after a few days subsided: He became delirious or stupid, in which state he was dying when I saw him; and his

his friends aſcribed his death to a coup de ſoleil, which he was ſaid to have received ſome months before, when he was abroad.

Mr. A. B. had a ſwelling of the throat, which after a few days ſubſided. When I ſaw him he had great ſtupor, with ſlow breathing, and partial delirium. On fomenting his head with warm water for an hour theſe ſymptoms of ſtupor were greatly leſſened, and his oppreſſed breathing gradually ceaſed, and he recovered in one day.

Mr. C. D. I found walking about the houſe in a calm delirium without ſtupor; and not without much inquiry of his friends could get the previous hiſtory of the diſeaſe; which had been attended with parotitis, and ſwelled teſtis, previous to the delirium. A few ounces of blood were taken away, a gentle cathartic was directed, and his head fomented with warm water for an hour, with a ſmall bliſter on the back, and he recovered in two or three days.

Mr. D. D. came down from London in the coach alone, ſo that no previous hiſtory could be obtained. He was walking about the houſe in a calm delirium, but could give no ſenſible anſwers to any thing which was propoſed to him. His pulſe was weak and quick. Cordials, a bliſter, the bark, were in vain exhibited, and he died in two or three days.

Mr. F. F. came from London in the ſame manner in the coach. He was mildly delirious with conſiderable

ſiderable ſtupor, and moderate pulſe, and could give no account of himſelf. He continued in a kind of cataleptic ſtupor, ſo that he would remain for hours in any poſture he was placed, either in his chair, or in bed; and did not attempt to ſpeak for about a fortnight, and then gradually recovered. Theſe two laſt caſes are not related as being certainly owing to parotitis, but as they might probably have that origin.

The parotitis ſuppurans, or mumps with irritated fever, is at times epidemic among cats, and may be called *parotitis felina*; as I have reaſon to believe from the ſwellings under the jaws, which frequently ſuppurate, and are very fatal to thoſe animals. In the village of Haywood, in Staffordſhire, I remember a whole breed of Perſian cats, with long white hair, was deſtroyed by this malady, along with almoſt all the common cats of the neighbourhood; and as the parotitis or mumps had not long before prevailed amongſt human beings in that part of the country, I recollect being inclined to believe, that the cats received the infection from mankind; though in all other contagious diſeaſes, except the rabies canina can be ſo called, no different genera of animals naturally communicate infection to each other; and I am informed, that vain efforts have been made to communicate the ſmall-pox and meaſles to ſome quadrupeds by inoculation. A diſeaſe of the head and neck

neck deſtroyed almoſt all the cats in Weſtphalia. Savage, Noſol. Claſs X. Art. 30. 8.

Since the above was firſt publiſhed, the cow-pox, variolæ vaccinæ, has been ſucceſsfully inoculated on the human ſubject, and produced a diſeaſe in ſome reſpects ſimilar to the ſmall-pox. See Variolæ.

5. *Catarrhus ſenſitivus* conſiſts of an inflammation of the membrane, which lines the noſtrils and fauces. It is attended with ſenſitive fever alone, and is cured by the ſteam of warm water externally, and by diluents internally, with moderate veneſection and gentle cathartics. This may be termed catarrhus ſenſitivus, to diſtinguiſh it from the catarrhus contagioſus, and is in common language called a violent cold in the head; it differs from the catarrhus calidus, or warm catarrh, of Claſs I. 1. 2. 7. in the production of new veſſels, or inflammation of the membrane, and the conſequent more purulent appearance of the diſcharge.

Raucedo catarrhalis, or catarrhal hoarſeneſs, is a frequent ſymptom of this diſeaſe, and is occaſioned by the pain or ſoreneſs which attends the thickened and inflamed membranes of the larynx; which prevents the muſcles of vocality from ſufficiently contracting the aperture of it. It ceaſes with the inflammation, or may be relieved by the ſteam of warm water alone, or of water and vinegar,

gar, or of water and ether. See Paralytic Hoarseness, Class III. 2. 1. 4.

6. *Catarrhus contagiosus.* This malady attacks so many at the same time, and spreads gradually over so great an extent of country, that there can be no doubt but that it is disseminated by the atmosphere. In the year 1782 the sun was for many weeks obscured by a dry fog, and appeared red as through a common mist. The material, which thus rendered the air muddy, probably caused the epidemic catarrh, which prevailed in that year, and which began far in the north, and extended itself over all Europe. See Botanic Garden, Vol. II. note on Chunda, and Vol. I. Canto IV. line 294, note; and was supposed to have been thrown out of a volcano, which much displaced the country of Iceland.

In many instances there was reason to believe, that this disease became contagious, as well as epidemic; that is, that one person might receive it from another, as well as by the general unsalutary influence of the atmosphere. This is difficult to comprehend, but may be conceived by considering the increase of contagious matter in the small-pox. In that disease one particular of contagious matter stimulates the skin of the arm in inoculation into morbid action so as to produce a thousand particles similar to itself; the same thing occurs in catarrh, a few deleterious atoms stimulate the mucous mem-

brane of the noſtrils into morbid actions, which produce a thouſand other particles ſimilar to themſelves. Theſe contagious particles diffuſed in the air muſt have conſiſted of animal matter, otherwiſe how could an animal body by being ſtimulated by them produce ſimilar particles? Could they then have had a volcanic origin, or muſt they not rather have been blown from putrid marſhes full of animal matter? But the greateſt part of the ſolid earth has been made from animal and vegetable recrements, which may be diſperſed by volcanoes. —Future diſcoveries muſt anſwer theſe queſtions.

As the ſenſitive fever attending theſe epidemic catarrhs is ſeldom either much irritated or inirritated, veneſection is not always either clearly indicated or forbidden; but as thoſe who have died of theſe catarrhs have generally had inflamed livers, with conſequent ſuppuration in them, veneſection is adviſeable, wherever the cough and fever are greater than common, ſo as to render the uſe of the lancet in the leaſt dubious. And in ſome caſes a ſecond bleeding was neceſſary, and a mild cathartic or two with four grains of calomel; with mucilaginous ſubacid diluents; and warm ſteam occaſionally to alleviate the cough, finiſhed the cure.

The catarrhus contagioſus is a frequent diſeaſe amongſt horſes and dogs; it ſeems firſt to be diſſeminated amongſt theſe animals by miaſmata diffuſed in the atmoſphere, becauſe ſo many of them receive it at the ſame time; and afterwards to be

communicable from one horſe or dog to another by contagion, as above deſcribed. Theſe epidemic or contagious catarrhs more frequently occur amongſt dogs and horſes than amongſt men; which is probably owing to the greater extenſion and ſenſibility of the mucous membrane, which covers the organ of ſmell, and is diffuſed over their wide noſtrils, and their large maxillary and frontal cavities. And to this circumſtance may be aſcribed the greater fatality of it to theſe animals.

In reſpect to horſes, I ſuſpect the fever at the beginning to be of the ſenſitive, irritated, or inflammatory kind, becauſe there is ſo great a diſcharge of purulent mucus; and that therefore they will bear once bleeding early in the diſeaſe; and alſo one mild purgative, conſiſting of about half an ounce of aloe, and as much white hard ſoap, mixed together. They ſhould be turned out to graſs both day and night for the benefit of pure air, unleſs the weather be too cold (and in that caſe they ſhould be kept in an open airy ſtable, without being tied), that they may hang down their heads to facilitate the diſcharge of the mucus from their noſtrils. Graſs ſhould be offered them, or other freſh vegetables, as carrots and potatoes, with maſhes of malt, or of oats, and with plenty of freſh warm or cold water frequently in a day. When ſymptoms of debility appear, which may be known by the coldneſs of the ears or other extremities, or when ſloughs can be ſeen on the membrane, which lines the

the noſtrils, a drink conſiſting of a pint of ale with half an ounce of tincture of opium in it, given every ſix hours, is likely to be of great utility.

In dogs I believe the catarrh is generally joined with ſymptoms of debility early in the diſeaſe. Theſe animals ſhould be permitted to go about in the open air, and ſhould have conſtant acceſs to freſh water. The uſe of being as much as may be in the air is evident, becauſe all the air, which they breathe, paſſes twice over the putrid ſloughs of the mortified parts of the membrane, which lines the noſtrils, and the maxillary and frontal cavities; that is, both during inſpiration and expiration; and muſt therefore be loaded with contagious particles. Freſh new milk, and freſh broth, ſhould be given them very frequently, and they ſhould be ſuffered to go amongſt the graſs, which they ſometimes eat for the purpoſe of an emetic; and if poſſible ſhould have acceſs to a running ſtream of water. As the contagious mucus of the noſtrils, both of theſe animals and of horſes, generally drops into the water, they attempt to drink. Bits of raw fleſh, if the dog will eat them, are preferred to cooked meat; and from five to ten drops of tincture of opium may be given with advantage, when ſymptoms of debility are evident, according to the ſize of the dog, every ſix hours. If ſloughs can be ſeen in the noſtrils, they ſhould be moiſtened twice a day, both in horſes and dogs, with a ſolution of ſugar of lead, or of alum, by means of a ſponge fixed

fixed on a bit of whale-bone, or by a ſyringe. The lotion may be made by diſſolving half an ounce of ſugar of lead, or of alum, in a pint of water.

Ancient philoſophers ſeem to have believed, that the contagious miaſmata in their warm climates affected horſes and dogs previous to mankind. If thoſe contagious particles were ſuppoſed to be diffuſed amongſt the heavy inflammable air, or carbonated hydrogen, of putrid marſhes, as theſe animals hold their heads down lower to the ground, they may be ſuppoſed to have received them ſooner than men. And though men and quadrupeds might receive a diſeaſe from the ſame ſource of marſh-putrefaction, they might not afterwards be able to infect each other, though they might infect other animals of the ſame genus; as the new contagious matter generated in their own bodies might not be preciſely ſimilar to that received; as happened in the jail-fever at Oxford, where thoſe who took the contagion and died, did not infect others.

On mules and dogs the infection firſt began,
And, laſt, the vengeful arrows fix'd on man,

POPE's Homer's Iliad, I.

7. *Peripneumonia ſuperficialis.* The ſuperficial or ſpurious peripneumony conſiſts in an inflammation of the membrane, which lines the bronchia, and bears the ſame analogy to the true peripneu-

 mony,

mony, as the inflammations of other membranes do to that of the parenchyma, or ſubſtantial parts of the viſcus, which they ſurround. It affects elderly people, and frequently occaſions their death; and exiſts at the end of the true peripneumony, or along with it; when the lancet has not been uſed ſufficiently to cure by reabſorbing the inflamed parts, or what is termed by reſolution.

M. M. Diluents, mucilage, antimonials, warmiſh air conſtantly changed, veneſection once, perhaps twice, if the pulſe will bear it. Oily volatile draughts. Balſams? Neutral ſalts increaſe the tendency to cough. Bliſters in ſucceſſion about the cheſt. Warm bath. Mild purgatives. Very weak chicken broth without ſalt in it. Boiled onions. One grain of calomel every night for a week. From five drops to ten of tincture of opium at ſix every night, when the patient becomes weak. Digitalis? See Claſs II. 1. 6. 7.

8. *Pertuſſis.* Tuſſis convulſiva. Chincough reſembles peripneumonia ſuperficialis in its conſiſting in an inflammation of the membrane which lines the air-veſſels of the lungs; but differs in the circumſtance of its being contagious; and is on that account of very long duration; as the whole of the lungs are probably not infected at the ſame time, but the contagious inflammation continues gradually to creep on the membrane. It may in this reſpect be compared to the ulcers in

the

the pulmonary confumption; but it differs in this, that in chincough fome branches of the bronchia heal, as others become inflamed.

This complaint is not ufually claffed amongft febrile diforders, but a fenfitive fever may generally be perceived to attend it during fome part of the day, efpecially in weak patients. And a peripneumony very frequently fupervenes, and deftroys great numbers of children, except the lancet or four or fix leeches be immediately and repeatedly ufed. When the child has permanent difficulty of breathing, which continues between the coughing fits: unlefs blood be taken from it, it dies in two, three, or four days of the inflammation of the lungs. During this permanent difficulty of breathing, the hooping cough abates, or quite ceafes, and returns again after once or twice bleeding; which is then a good fymptom, as the child now poffeffing the power to cough fhews the difficulty of breathing to be abated. I dwell longer upon this, becaufe many lofe their lives from the difficulty there is in bleeding young children; where the apothecary is old or clumfy, or is not furnifhed with a very fharp and fine-pointed lancet. In this diftreffing fituation the application of four leeches to one of the child's legs, the wounds made by which fhould continue to bleed an hour or two, is a fuccedaneum; and faves the patient, if repeated once or twice, according to the difficulty of the refpiration.

The

The chin cough ſeems to reſemble the gonorrhœa venerea in ſeveral circumſtances. They are both received by infection, are both diſeaſes of the mucous membrane, are both generally cured in four or ſix weeks without medicine. If ulcers in the cellular membrane under the mucous membrane occur, they are of a phagedenic kind, and deſtroy the patient in both diſeaſes, if no medicine be adminiſtered.

Hence the cure ſhould be ſimilar in both theſe diſeaſes; firſt general evacuations and diluents, then, after a week or two, I have believed the following pills of great advantage. The doſe for a child of about three years old was one-ſixth part of a grain of calomel, one-ſixth part of a grain of opium, and two grains of rhubarb, to be taken twice a day.

The opium promotes abſorption from the mucous membrane, and hence contributes to heal it. The mercury prevents ulcers from being formed under the mucous membrane, or cures them, as in the lues venerea; and the rhubarb is neceſſary to keep the bowels open.

M. M. Antimonial vomits frequently repeated. Mild cathartics. Cool air. Tincture of cantharides, or repeated bliſters; afterwards opiates in ſmall doſes, and the bark. Warm bath frequently uſed. The ſteam of warm water with a little vinegar in it may be inhaled twice a day. Thirty drops of ſaturated tincture of digitalis purpurea,

purple

purple foxglove, were given twice a day to a lady, feventy years of age, in this difeafe, with great and almoft immediate advantage. I have fince given from five to ten drops twice a day to two children, with alfo great apparent advantage. See Art. IV. 2.3.7. Arfenic has lately been recommended in the hooping cough. See Art. IV. 2. 6. 9. And externally a folution of 20 grains of emetic tartar, antimonium tartarifatum, in two ounces of water, to which is to be added one ounce of tincture of cantharides, is recommended, by Dr. Struve of America, to be rubbed very frequently on the region of the ftomach. Could the breathing of carbonic acid gas mixed with atmofpheric air be of fervice? Copious venefection, when a difficulty of breathing continues between the fits of coughing; otherwife the cough and the expectoration ceafe, and the patient is deftroyed. Ulcers of the lungs fometimes fupervene, and the phthifis pulmonalis in a few weeks terminates in death. Where the cough continues after fome weeks without much of the hooping, and a fenfitive fever daily fupervenes, fo as to refemble hectic fever from ulcers of the lungs; change of air for a week or fortnight acts as a charm, and reftores the patient beyond the hopes of the phyfician.

Young children fhould lie with their heads and fhoulders raifed; and fhould be conftantly watched day and night; that when the cough occurs, they may be held up eafily, fo as to ftand upon their

feet

feet bending a little forwards; or nicely ſupported in that poſture which they ſeem to put themſelves into. A bow of whalebone, about the ſize of the bow of a key, is very uſeful to extract the phlegm out of the mouths of infants at the time of their coughing; as a handkerchief, if applied at the time of their quick inſpirations after long holding their breath is dangerous, and may ſuffocate the patient in an inſtant, as I believe has ſometimes happened.

9. *Variola diſcreta.* The ſmall-pox is well divided by Sydenham into diſtinct and confluent. The former conſiſts of diſtinct puſtules, which appear on the fourth day of the fever, are circumſcribed and turgid; the fever ceaſing when the eruption is complete. Head-ach, pain in the loins, vomiting frequently, and convulſive fits ſometimes, precede the eruption.

The diſtinct ſmall-pox is attended with ſenſitive fever only, when very mild, as in moſt inoculated patients; or with ſenſitive irritated fever, when the diſeaſe is greater: the danger in this kind of ſmall-pox is owing either to the tumor and ſoreneſs of the throat about the height, or eighth day of the eruption; or to the violence of the ſecondary fever. For, firſt, as the natural diſeaſe is generally taken by particles of the duſt of the contagious matter dried and floating in the air, theſe are liable to be arreſted by the mucus about the throat and tonſils

tonsils in their passage to the lungs, or to the stomach, when they are previously mixed with saliva in the mouth. Hence the throat inflames like the arm in inoculated patients; and this increasing, as the disease advances, destroys the patient about the height.

Secondly, all those upon the face and head come out about the same time, namely, about one day before those on the hands, and two before those in the trunk; and thence, when the head is very full, a danger arises from the secondary fever, which is a purulent not a variolous fever; for as the matter from all these of the face and head is reabsorbed at the same time, the patient is destroyed by the violence of this purulent fever; which in the distinct small-pox can only be abated by venesection and cathartics; but in the confluent small-pox requires cordials and opiates, as it is attended with arterial debility. See Sect. XXXV. 1. and XXXIII. 2. 10.

When the pustules on the face recede, the face swells; and when those of the hands recede, the hands swell; and the same of the feet in succession. These swellings seem to be owing to the absorption of variolous matter, which by its stimulus excites the cutaneous vessels to secrete more lymph, or serum, or mucus, exactly as happens by the stimulus of a blister. Now, as a blister sometimes produces strangury many hours after it has risen, it is plain, that a part of the cantharides is absorbed,

ſorbed, and carried to the neck of the bladder; whether it enters the circulation, or is carried thither by retrograde movements of the urinary branch of lymphaties; and by parity of reaſoning the variolous matter is abſorbed, and ſwells the face and hands by its ſtimulus.

Variola confluens. The confluent ſmall-pox conſiſts of numerous puſtules, which appear on the third day of the fever, flow together, are irregularly circumſcribed, flaccid, and little elevated; the fever continuing after the eruption is complete; convulſions do not precede this kind of ſmall-pox, and are ſo far to be eſteemed a favourable ſymptom.

The confluent ſmall-pox is attended with ſenſitive inirritated fever, or inflammation with arterial debility; whence the danger of this diſeaſe is owing to the general tendency to gangrene, with petechiæ, or purple ſpots, and hæmorrhages; beſides the two ſources of danger from the tumor of the throat about the height, or eleventh day of the eruption, and the purulent fever after that time; which are generally much more to be dreaded in this than in the diſtinct ſmall-pox deſcribed above.

M. M. The method of treatment muſt vary with the degree and kind of fever. Veneſection may be uſed in the diſtinct ſmall-pox early in the diſeaſe, according to the ſtrength or hardneſs of the pulſe; and perhaps on the firſt day of the con-

fluent

fluent ſmall-pox, and even of the plague, before the ſenſorial power is exhauſted by the violence of the arterial action? Cold air, and even waſhing or bathing in cold water, is a powerful means in perhaps all eruptive diſeaſes attended with fever; as the quantity of eruption depends on the quantity of the fever, and the activity of the cutaneous veſſels; which may be judged of by the heat produced on the ſkin; and which latter is immediately abated by expoſure to external cold. Mercurial purges, as three grains of calomel repeated every day during the eruptive fever, ſo as to induce three or four ſtools, contribute to abate inflammation; and is believed by ſome to have a ſpecific effect on the variolous, as it is ſuppoſed to have on the venereal contagion.

It has been ſaid, that opening the pock and taking out the matter has not abated the ſecondary fever; but as I had conceived, that the pits, or marks, left after the ſmall-pox, were owing to the acrimony of the matter beneath the hard ſcabs, which not being able to exhale eroded the ſkin, and produced ulcers, I directed the faces of two patients in the confluent ſmall-pox to be covered with cerate early in the diſeaſe, which was daily renewed; and I was induced to think, that they had much leſs of the ſecondary fever, and were ſo little marked, that one of them, who was a young lady, almoſt entirely preſerved her beauty. Perhaps mercurial plaſters, or cerates, made without turpentine

turpentine in them, might have been more efficacious in preventing the marks, and especially if applied early in the disease, even on the first day of the eruption, and renewed daily. For it appears from the experiments of Van Woensel, that calomel or corrosive sublimate, triturated with variolous matter, incapacitates it from giving the disease by inoculation. Calomel or sublimate given as an alterative for ten days before inoculation, and till the eruptive fever commences, is said with certainty to render the disease mild by the same author. Exper. on Mercury by Van Woensel, translated by Dr. Fowle, Salisbury.

C. Dessarts, in the sitting of the French national institute is said to have adduced a number of facts to prove, that the natural small-pox is rendered much milder by the use of mercurial remedies; which I suppose is probably true, as mercurials increase the absorption in many other ulcers, and consequently diminish the acrimony of the matter, and forward their healing.

Variola inoculata. The world is much indebted to the great discoverer of the good effects of inoculation, whose name is unknown; and our own country to lady Wortley Montague for its introduction into this part of Europe. By inserting the variolous contagion into the arm, it is not received by the tonsils, as generally happens, I suppose, in the natural small-pox; whence there is no dangerous swelling of the throat, and as the pustules are generally

generally few and diſtinct, there is ſeldom any ſecondary fever; whence thoſe two ſources of danger are precluded; hence when the throat in inoculated ſmall-pox is much inflamed and ſwelled, there is reaſon to believe, that the diſeaſe had been previouſly taken by the tonſils in the natural way: which alſo, I ſuppoſe, has generally happened, where the confluent kind of ſmall-pox has occurred on inoculation.

I have known two inſtances, and have heard of others, where the natural ſmall-pox began fourteen days after the contagion had been received; one of theſe inſtances was of a countryman, who went to a market-town many miles from his home, where he ſaw a perſon in the ſmall-pox, and on returning the fever commenced that day fortnight: the other was of a child, whom the ignorant mother carried to another child ill of the ſmall-pox, on purpoſe to communicate the diſeaſe to it; and the variolous fever began on the fourteenth day from that time. So that in both theſe caſes fever commenced in half a lunation after the contagion was received. In the inoculated ſmall-pox the fever generally commences on the ſeventh day, or after a quarter of a lunation; and on this circumſtance probably depends the greater mildneſs of the latter. The reaſon of which is difficult to comprehend; but ſuppoſing the facts to be generally as above related, the ſlower progreſs of the contagion indicates a greater inirritability of the ſyſtem, and in con-

consequence a tendency to malignant rather than to inflammatory fever. This difference of the time between the reception of the infection and the fever in the natural and artificial small-pox may nevertheless depend on its being inserted into a different series of vessels; or to some unknown effect of lunar periods. It is a subject of great curiosity, and deserves further investigation.

When the inoculated small-pox is given under all the most favourable circumstances, I believe less than one in a thousand miscarry, which may be ascribed to some unavoidable accident, such as the patient having previously received the infection, or being about to be ill of some other disease. Those which have lately miscarried under inoculation, as far as has come to my knowledge, have been chiefly children at the breast; for in these the habit of living in the air has been confirmed by so short a time, that it is much easier destroyed, than when these habits of life have been established by more frequent repetition. See Sect. XVII. 3. Thus it appears from the bills of mortality kept in the great cities of London, Paris, and Vienna, that out of every thousand children above three hundred and fifty die under two years old. (Kirkpatrick on Inoculation.) Whence a strong reason against our hazarding inoculation before that age is passed, especially in crowded towns; except where the vicinity of the natural contagion renders it necessary, or the convenience of in-

oculating

oculating a whole family at a time; as it then becomes better to venture the lefs favourable circumftances of the age of the patient, or the chance of the pain from toothing, than to rifk the infection in the natural way.

The moft favourable method confifts in, firft, for a week before inoculation, reftraining the patients from all kinds of fermented or fpirituous liquor, and from animal food; and by giving them from one grain to three or four of calomel every other day for three times. But if the patients be in any the leaft danger of taking the natural infection, the inoculation had better be immediately performed, and this abftinence then begun; and two or three gentle purges with calomel fhould be given, one immediately, and on alternate days. Thefe cathartics fhould not induce more than two or three ftools. I have feen two inftances of a confluent fmall-pox in inoculation following a violent purging induced by too large a dofe of calomel.

Secondly, the matter ufed for inoculation fhould be in a fmall quantity, and warm, and fluid. Hence it is beft when it can be recently taken from a patient in the difeafe; or otherwife it may be diluted with part of a drop of warm water, fince its fluidity is likely to occafion its immediate abforption; and the wound fhould be made as fmall and fuperficial as poffible, as otherwife ulcers have been fuppofed fometimes to enfue with fubaxillary abfceffes. Add

to this, that the making two punctures either on the same or one on each arm, secures the success of the operation in respect to communicating the infection.

Thirdly, at the time of the fever or eruption, the application of cool air to those parts of the skin which are too warm, or appear red, or are covered with what is termed a rash, should be used freely, as well as during the whole disease. And at the same time, if the feet or hands are colder than natural, these should be covered with flannel. See Class IV. 2. 2. 10.

Where the matter used is not procured quite fresh, the manner of preserving it should be nicely attended to: as I have been informed that a surgeon procured some matter in a fluid state, about a tea-spoonful, which had been kept some time in a quill, and afterwards in a small phial, which he carried sixteen hours in his breeches-pocket; with this he inoculated many children, most of whom had not the small-pox in consequence, but were affected with typhus, one of whom died. Whence it appears, that the variolous matter had undergone by putrefaction a decomposition, and that another kind of contagious material had been produced; which agrees with the ingenious observations of Dr. Jenner, in his treatises on the variolæ vaccinæ, or cow-pox; and of Mr. Kite, related in the Memoirs of the Medical Society of London, Vol. IV.

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May not the confluent ſmall-pox proceed from the contagious matter having undergone a partial putrefaction, ſo as to contain both the variolous and the typhus contagion? and that, whether the diſeaſe be taken naturally or by inoculation? and that hence the confluent kind conſiſts of the ſmall-pox, with the fever commonly termed putrid? and that, laſtly, as Dr. Jenner obſerves, where the ſmall-pox has been ſaid to recede, or not to riſe, the diſeaſe has been ſimply a malignant or typhus fever, febris ſenſativa inirritata, miſtaken for the ſmall-pox?

Variola vaccina. Cow-pox. Cows are liable to an eruption on their paps or udders, in ſome counties, as in Glouceſterſhire; which was occaſionally communicated to the hands or arms of thoſe who milked them, producing an ulcer, and ſome degree of fever: and it had been long obſerved by the people of thoſe counties, that thoſe who had undergone this diſeaſe, which was called the cow-pox, were not liable to the ſmall-pox.

Dr. Jenner, an eminent phyſician in Glouceſterſhire, fortunately attended to this diſeaſe, found it to be much milder than the ſmall-pox, and that the fact was true, that it ſecured thoſe who had been infected with it from afterwards being liable to the variolous infection. He alſo obſerved, that the vaccine-pox is not infectious, but by careful inoculation; and that, on this account, it might

be inoculated in a family, without endangering others. A circumſtance of great conſequence to the public, as the inoculation of the ſmall-pox is known frequently to propagate that diſeaſe; and alſo to private families, when there happens to be a pregnant woman in them, who has not had the ſmall-pox: to all of whom in that ſituation it is dangerous, as it generally produces miſcarriage, and frequently death. Dr. Cappe, in an ingenious paper in the York Herald, obſerves, that the vaccine diſeaſe is never communicated but by contact, and then only when the matter lies on the broken ſkin; and that many women during pregnency have paſſed through this diſeaſe, and none have ſuffered from it; and that inſtead of being peculiarly dangerous to young infants, as the ſmall-pox is, it ſeems to be peculiarly mild to them.

From all theſe circumſtances it may be hoped, that the inoculation of the cow-pox may become ſo general, and performed ſo early in life, as totally to eradicate the ſmall-pox; by which latter diſeaſe above two thouſand perſons are ſhewn by Dr. Cappe, by the bills of mortality, to be annually deſtroyed in a part of London only.

As the cow-pox is ſo much leſs infectious than the ſmall-pox, it requires much more care in the inoculation to give the diſeaſe with certainty; whence it ſometimes has happened, that a ſlight inflammation from the puncture of the lancet has been miſtaken by the unſkilful for the vaccine diſ-

eaſe:

ease: and I have heard of four such patients in this country, who have afterward taken the small-pox. But as Dr. Woodville inoculated a thousand people with the small-pox, who had previously received the cow-pox, without one of them taking the infection, there can be no doubt but that the four patients above mentioned had not previously undergone the vaccine disease; and ought not therefore to discredit this fortunate and wonderful discovery.

In the counties where the cows are subject to this disease, the milking is performed principally by men-servants; and it is there believed, as Dr. Jenner mentions, that the disease was previously given to the paps of the cows by the hands of the men who milked them, and who had previously acquired the infectious matter from the heels of horses, which discharged an acrid sanies, when they had a disease called the grease. This may be worth further investigation; as the preservation of people from the small-pox, by their having undergone the cow-pox, is so wonderful a phenomenon, so contrary to our previous knowledge of any analogy between the infectious diseases of men and quadrupeds, that other facts equally surprising may exist. May not the small-pox have been originally acquired from the cow-pox? which latter, having been a much older disease, may by process of time have become milder than the former: as the small-pox is believed also to have become much milder than formerly; owing probably to the incapacity of

receiving it, which exiſts in thoſe who have undergone that diſeaſe, having in proceſs of time become hereditary. Which incapacity of receiving a ſecond time the ſmall-pox may be explained from the general law of animation, that ſtimuli greater than natural loſe their effect by habit, or from their being too violently or too frequently applied.

As the cow-pox is ſaid to be ſo favourable to infants, great benefit might accrue to mankind by their early inoculation, which might in time exterminate the ſmall-pox. This might be perhaps effected by eſtabliſhing a diſpenſary in towns, and even villages, and allowing a premium of a few ſhillings to every one of the poor who ſhould be thus inoculated, as well as their daily ſuſtenance for eight or ten days, that their arms might be inſpected by a ſurgeon, to aſcertain that they underwent the genuine diſeaſe.

10. *Rubeola irritata, morbilli.* The meaſles commence with ſneezing, red eyes, dry hoarſe cough, and are attended with ſenſitive irritated fever. On the fourth day, or a little later, ſmall thick eruptions appear, ſcarcely eminent above the ſkin, and, after three days, changing into very ſmall branny ſcales.

As the contagious material of the ſmall-pox may be ſuppoſed to be diffuſed in the air like a fine dry powder, and mixing with the ſaliva in the mouth to infect the tonſils in its paſſage to the ſtomach; ſo

ſo the contagious material of the meaſles may be ſuppoſed to be more completely diſſolved in the air, and thus to impart its poiſon to the membrane of the noſtrils, which covers the ſenſe of ſmell; whence a catarrh with ſneezing uſhers in the fever; the termination of the naſal duct of the lacrymal ſac is ſubject to the ſame ſtimulus and inflammation, and affects by ſympathy the lacrymal glands, occaſioning a great flow of tears. See Sect. XVI. 8. And the redneſs of the eye and eyelids is produced in conſequence of the tears being in ſo great quantity, that the ſaline part of them is not entirely reabſorbed. See Sect. XXIV. 2. 8.

The contagion of the meaſles, if it be taken a ſufficient time before inoculation, ſo that the eruption may commence before the variolous fever comes on, ſtops the progreſs of the ſmall-pox in the inoculated wound, and delays it till the meaſle-fever has finiſhed its career. See Sect. XXXIII. 2. 9.

The meaſles are uſually attended with inflammatory fever with ſtrong pulſe, and bear the lancet in every ſtage of the diſeaſe. In the early periods of it, veneſection renders the fever and cough leſs; and, if any ſymptoms of peripneumony occur, is repeatedly neceſſary; and at the decline of the diſeaſe, if a cough be left after the eruption has ceaſed, and the ſubſequent branny ſcales are falling of, veneſection ſhould be immediately uſed; which prevents the danger of conſumption. At this time

alſo

alſo change of air is of material conſequence, and often removes the cough like a charm, as mentioned in a ſimilar ſituation at the end of the chincough.

Rubeola inirritata. Meaſles with inirritated fever, or with weak pulſe, has been ſpoken of by ſome writers. See London Med. Obſerv. Vol. IV. Art. XI. It has alſo been ſaid to have been attended with ſore throat. Edinb. Eſſays, Vol. V. Art. II. Could the ſcarlet fever have been miſtaken for the meaſles? or might one of them have ſucceeded the other, as in the meaſles and ſmall-pox mentioned in Sect. XXXIII. 2. 9.?

From what has been ſaid, it is probable that inoculation might diſarm the meaſles as much as the ſmall-pox, by preventing the catarrh, and frequent pulmonary inflammation, which attends this diſeaſe; both of which are probably the conſequence of the immediate application of the contagious miaſmata to theſe membranes. Some attempts have been made, but a difficulty ſeems to ariſe in giving the diſeaſe; the blood, I conjecture, would not infect, nor the tears; perhaps the mucous diſcharge from the noſtrils might ſucceed; or a drop of warm water put on the eruptions, and ſcraped off again with the edge of a lancet; or if the branny ſcales were collected, and moiſtened with a little warm water? Further experiments on this ſubject would be worthy the public attention.

11. *Scar-*

11. *Scarlatina mitis.* The ſcarlet fever exiſts with all degrees of virulence, from a flea-bite to the plague. The infectious material of this diſeaſe, like that of the ſmall-pox, I ſuppoſe to be diffuſed, not diſſolved, in the air; on which account I ſuſpect that it requires a much nearer approach to the ſick for a well perſon to receive the infection, than in the meaſles; the contagion of which I believe to be more volatile, or diffuſible, in the atmoſphere. But as the contagious miaſmata of ſmall-pox and ſcarlet fever are ſuppoſed to be more fixed, they may remain for a longer time in clothes or furniture; as a thread dipped in variolous matter has given the diſeaſe by inoculation after having been expoſed many days to the air, and after having been kept many months in a phial. This alſo accounts for the ſlow or ſporadic progreſs of the ſcarlet fever, as it infects others at but a very ſmall diſtance from the ſick; and does not produce a quantity of pus-like matter, like the ſmall-pox, which can adhere to the clothes of the attendants, and when dried is liable to be ſhaken off in the form of powder, and thus propagate the infection.

This contagious powder of the ſmall-pox, and of the ſcarlet fever, becomes mixed with ſaliva in the mouth, and is thus carried to the tonſils, the mucus of which arreſts ſome particles of this deleterious material; while other parts of it are carried into the ſtomach, and are probably decom-

posed by the power of digestion; as seems to happen to the venom of the viper, when taken into the stomach. Our perception of bad tastes in our mouths, at the same time that we perceive disagreeable odours to our nostrils, when we inhale very bad air, occasions us to spit out our saliva; and thus, in some instances, to preserve ourselves from infection. This has been supposed to originate from the sympathy between the organs of taste and smell; but any one who goes into a sick-room close shut up, or into a crowded assembly-room, or tea-room, which is not sufficiently ventilated, may easily mix the bad air with the saliva on his tongue so as to taste it; as I have myself frequently attended to.

Hence it appears that these heavy infectious matters are more liable to mix with the saliva, and inflame the tonsils, and that either before or at the commencement of the fever; and this is what generally happens in the scarlet fever, always I suppose in the malignant kind, and very frequently in the mild kind. But as this infection may be taken by other means, as by the skin, it also happens in the most mild kind, that there is no inflammation of the tonsils at all; in the same manner as there is generally no inflammation of the tonsils in the inoculated small-pox.

In the mild scarlatina on the fourth day of the fever the face swells a little, at the same time a florid redness appears on various parts of the skin

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in large blotches, at length coalefcing, and after three days changing into branny fcales.

M. M. Cool air. Fruit. Lemonade. Milk and water.

Scarlatina maligna. The malignant fcarlet fever begins with inflamed tonfils; which are fucceeded by dark drab-coloured floughs from three to five lines in diameter, flat, or beneath the furrounding furface; and which conceal beneath them fpreading gangrenous ulcers. The fwellings of the tonfils are fenfible to the eye and touch externally, and have an elaftic rather than an œdematous feel, like parts in the vicinity of gangrenes. The pulfe is very quick and weak, with delirium, and the patient generally dies in a few days; or if he recovers, it is by flow degrees, and attended with anafarca.

M. M. A vomit once. Wine. Beer. Cyder. Opium. Bark, in fmall repeated dofes. Small fucceffive blifters, if the extremities are cooler than natural. Cool air on the hot parts of the fkin, the cool extremities being at the fame time covered. Iced lemonade. Broth. Cuftards. Milk. Jellies. Bread pudding. Chicken. Touch the ulcers with a dry fponge to abforb the contagious matter, and then with a fponge filled with vinegar, with or without fugar of lead diffolved in it, about fix grains to an ounce; or with a very little blue vitriol diffolved in it, as a grain to an ounce; but nothing fo inftantaneoufly corrects the putrid fmell

of

of ulcers as a ſolution of alum, about half an ounce to a pint of water, which ſhould be a little warmiſh, and injected into the fauces gently by means of a ſyringe. Theſe ſhould be repeated frequently in a day, if it can be done eaſily, and without fatigue to the child. A little powder of bark taken frequently into the mouth, as a grain or two, that it may mix with the ſaliva, and thus frequently ſtimulate the dying tonſils. Could a warm bath made of decoction of bark, or a cold alluviation with it, be of ſervice? Could oxygene gas mixed with common air ſtimulate the languid ſyſtem? Small electric ſhocks through the tonſils every hour? ether frequently applied externally to the ſwelled tonſils?

As this diſeaſe is attended with the greateſt degree of debility, and as ſtimulant medicines, if given in quantity, ſo as to produce more than natural warmth, contribute to expend the already too much exhauſted ſenſorial power; it appears, that there is nothing ſo neceſſary to be nicely attended to as to prevent any unneceſſary motions of the ſyſtem; this is beſt accompliſhed by the application of cold to thoſe parts of the ſkin, which are in the leaſt too hot. Dr. Moſman, of Bradford, directed a boy of eight years of age, who was very hot, and covered with the ſcarlet eruption, to be taken naked out of bed, and moiſtened his ſkin all over with cold vinegar, by means of a ſponge, with great and good event. It is probable that cold vinegar might diminiſh the inflammation

inflammation and consequent heat of the skin more effectually than cold water, as its application to the lips renders them pale, probably by stimulating the absorbent extremities of the veins into greater action. Annals of Medicine, Vol. IV. 1799. Secondly, that the exhibition of the bark in such quantity as not to oppress the stomach and injure digestion, is next to be attended to, as not being liable to increase the actions of the system beyond their natural quantity; and that opium and wine should be given with the greatest caution, in very small repeated quantity, and so managed as to prevent, if possible, the cold fits of fever; which probably occur twice in 25 hours, obeying the lunations like the tides, as mentioned in Sect. XXXII. 6. that is, I suppose, the cold periods, and consequent exacerbations of fever, in this malignant scarlatina, occur twice in a lunar day; which is about ten minutes less than 25 hours; so that if the commencement of one cold fit be marked, the commencement of the next may be expected (if not disturbed by the exhibition of wine, or opium, or the application of blisters) to occur in about twelve hours and a half from the commencement of the former; or if not prevented by large doses of the bark.

No one could do an act more beneficial to society, or glorious to himself, than by teaching mankind how to inoculate this fatal disease; and thus to deprive it of its malignity. Matter might be taken

taken from the ulcers in the throat, which would probably convey the contagion; or warm water might be put on the eruption, and ſcraped off again by the edge of a lancet. Theſe experiments could be attended with no danger, and ſhould be tried for the public benefit, and the honour of medical ſcience.

Dr. Harwood, profeſſor of anatomy, at Cambridge, favoured me with the following curious caſe of this infection: Mr. N—— had a violent delirium in the ſcarlet fever, with the ſkin cracked in many places, exuding an ichorous matter; he was attended by a poor man who had recently cut his hand with a glaſs bottle, and in the ſtruggle of confining him to bed his wounded hand was frequently applied to the patient's body. This happened on the Friday night; his hand was inflamed and the arm ſwelled the next day; on the Monday following he was ſeized with the ſame fever, and died on the Wedneſday morning after. This would ſeem to ſhew, as far as a ſingle caſe can be relied on, that the ſcarlet fever may be communicated, like the ſmall-pox, by inoculation, and probably with ſimilar ſucceſs, if the matter be diluted with warm water, uſed in ſmall quantity, and by ſuperficial inciſions only, through the cuticle.

12. *Miliaria.* Miliary fever. An eruption produced by the warmth, and more particularly by the ſtimulus, of the points of the wool in flan-

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nel or blankets applied to the ſkin, has been frequently obſerved; which, by cool dreſs, and bed-clothes without flannel, has ſoon ceaſed. See Claſs I. 1. 2. 3. This, which may be called *miliaria ſudatoria*, has been confounded with other miliary fevers, and has made the exiſtence of the latter doubted. Two kinds of eruptions I have ſeen formerly attended with fever, but did not ſufficiently mark their progreſs, which I conceived to be miliary eruptions, one with arterial ſtrength, or with ſenſitive irritated fever, and the other with arterial debility, or with ſenſitive inirritated fever.

In the former of theſe, or *miliaria irritata*, the eruptions were diſtinct and larger than the ſmall-pox, and the fever was not ſubdued without two or three veneſections, and repeated cathartics with calomel.

The latter, or *miliaria inirritata*, was attended with great arterial debility; and during the courſe of the fever pellucid points appeared within the ſkin, particularly on the ſoft parts of the fingers. And, in one patient, whom I eſteemed near her end, I well recollect to have obſerved round pellucid globules, like what are often ſeen on vines in hot-houſes, no larger than the ſmalleſt pins' heads, adhere to her neck and boſom; which were hard to the touch, but were eaſily rubbed off. Theſe diſeaſes, if they are allied, do not differ more than the kinds of ſmall pox; but require many further obſervations.

The eruption ſo often ſeen on children in the cradle, and called by the nurſes red-gum, and which is attended with ſome degree of fever, I ſuſpect to be produced by too great warmth, and the contact of flannel next their tender ſkins, like the miliaria ſudatoria; and like that requires cool air, cool clothes, and linen next their ſkin.

13. *Peſtis.* The plague, like other diſeaſes of this claſs, ſeems to be ſometimes mild, and ſometimes malignant; according to the teſtimony of different writers. It is ſaid to be attended with inflammation, with the greateſt arterial debility, and to be very contagious, attended at an uncertain time of the fever with buboes and carbuncles. Some authors affirm, that the contagion of the plague may be repeatedly received, ſo as to produce the diſeaſe; but as this is contrary to the general analogy of all contagious diſeaſes, which are attended with fever, and which cure themſelves ſpontaneouſly; there is reaſon to ſuſpect, that where it has been ſuppoſed to have been repeatedly received, ſome other fever with arterial debility has been miſtaken for it, as has probably univerſally been the caſe, when the ſmall-pox has been ſaid to have been twice experienced.

M. M. Veneſection has been recommended by ſome writers on the firſt day, where the inflammation was ſuppoſed to be attended with ſufficient arterial ſtrength, which might perhaps ſometimes happen,

happen, as the bubo ſeems to be a ſuppuration; but the carbuncle, or anthrax, is a gangrene of the part, and ſhews the greateſt debility of circulation. Whence all the means before enumerated in this genus of diſeaſes to ſupport the powers of life are to be adminiſtered. Currents of cold air, cold water, ice, externally on the hot parts of the ſkin.

The methods of preventing the ſpreading of this diſeaſe have been much canvaſſed, and ſeem to conſiſt in preventing all congregations of the people, as in churches, or play-houſes; and to remove the ſick into tents, on ſome airy common, by the ſide of a river, and ſupply them with freſh food, both animal and vegetable; with beer and wine, in proper quantities; and to encourage thoſe who can, daily to waſh both their clothes and themſelves.

The *peſtis vaccina*, or diſeaſe amongſt the cows, which afflicted this iſland about half a century ago, ſeems to have been a contagious fever, with great arterial debility; as in ſome of them, in the latter ſtage of the diſeaſe, an emphyſema could often be felt in ſome parts, which evinced a conſiderable progreſs of gangrene beneath the ſkin. In the ſenſitive inirritated fevers of theſe animals, I ſuppoſe about ſixty grains of opium, with two ounces of extract of oak-bark, every ſix hours, would ſupply them with an efficacious medicine; to which might be added thirty grains of vitriol of iron, if any tendency to bloody urine ſhould ap-

 pear,

pear, to which this animal is liable. The method of preventing the infection from ſpreading, if it ſhould ever again gain acceſs to this iſland, would be immediately to obtain an order from government to prevent any cattle from being removed, which were found within five miles of the place ſuppoſed to be infected, for a few days; till the certainty of the exiſtence of the peſtilence could be aſcertained, by a committee of medical people. As ſoon as this was aſcertained, all the cattle within five miles of the place ſhould be immediately ſlaughtered, and conſumed within the circumſcribed diſtrict; and their hides put into lime-water before proper inſpectors.

14. *Pemphigus* is a contagious diſeaſe, attended with bladdery eruptions, appearing on the ſecond or third day, as large as filberts, which remain many days, and then effuſe a thin ichor. It ſeems to be either of a mild kind, with ſenſitive fever only, of which I have ſeen two inſtances; or with irritated, or with inirritated fever; as appears from the obſervations of M. Salabert. See Medical Comment. by Dr. Duncan, Decad. II. Vol. VI.

15. *Varicella.* Chicken-pox is accompanied with ſenſitive fever, puſtules break out after a mild fever, like the ſmall-pox, ſeldom ſuppurate, and generally terminate in ſcales without ſcars. I once ſaw a lady who miſcarried during this diſeaſe,

though all her children had it as ſlightly as uſual. It ſometimes leaves ſcars or marks on the ſkin. This diſeaſe has been miſtaken for the ſmall-pox, and inoculated for it; and then the ſmall-pox has been ſuppoſed to happen twice to the ſame perſon. See Tranſ. of the College, London. It is probable that the pemphigus and urticaria, as well as this diſeaſe, have formerly been diſeaſes of more danger; which the habit of innumerable generations may have rendered mild, and will in proceſs of time annihilate. In the ſame manner as the ſmall-pox, venereal diſeaſe, and rickets, ſeem to become milder or leſs in quantity every half century. While, at the ſame time, it is not improbable, that other new diſeaſes may ariſe, and, for a ſeaſon, thin mankind!

16. *Urticaria.* Nettle-raſh begins with mild ſenſitive fever, which is ſometimes ſcarcely perceptible. Hence this eruption has been thought of two ſorts, one with and the other without fever. On the ſecond day red ſpots, like parts ſtung with nettles, are ſeen; which almoſt vaniſh during the day, and recur in the evening with the fever, ſucceeded in a few days by very minute ſcales. See Tranſ. of the College, London.

17. *Aphtha.* Thruſh. It has been doubted, whether aphtha or thruſh, which conſiſts of ulcers in the mouth, ſhould be enumerated amongſt fe-

brile diseases; and whether these ulcers are always symptomatic, or the consequence rather than the cause of the fevers which attend them. The tongue becomes rather swelled; its colour and that of the fauces purplish; sloughs or ulcers appear first on the throat and edges of the tongue, and at length over the whole mouth. These sloughs are whitish, sometimes distinct, often coalescing, and remain an uncertain time. Cullen. I shall concisely mention four cases of aphtha, but do not pretend to determine whether they were all of them symptomatic or original diseases.

Aphtha sensitiva. A lady during pregnancy was frequently seized with ulcers on her tongue and cheeks, or other parts of the mouth, without much apparent fever; which continued two or three weeks, and returned almost every month. The thrush in the mouths of young children seems to be a similar disease. These ulcers resemble those produced in the sea-scurvy, and have probably for their cause an increased action of the secerning system from increased sensation, with a decreased action of the absorbent system from decreased irritation. See Class I. 2. 1. 14.

M. M. Solutions of alum, of blue vitriol. Powder of bark taken frequently into the mouth in very small quantity. See Class II. 1. 3. 1.

Aphtha irritata. Inflammatory aphtha. A case of this kind is related under the title of suppurative rheumatism. Class IV. 2. 1. 16.

Aphtha

Aphtha inirritata. Sloughs or ulcers of the mouth, attended with ſenſitive fever with great arterial debility. They ſeem to ſpread downwards from the throat into the ſtomach, and probably through the whole inteſtinal canal, beginning their courſe with cardialgia, and terminating it with teneſmus; and might perhaps be called an eryſipelas of this mucous membrane.

M. M. Cool air. A ſmall bliſter on the back. Bark. Wine. Opium in ſmall repeated quantities. Soap neutralizes the gaſtric acid without efferveſcence, and thus relieves the pain of cardialgia, where the ſtomach is affected. Milk alſo deſtroys a part of this acid. Infuſion of ſage-leaves two ounces, almond-ſoap from five grains to ten, with ſugar and cream, is generally both agreeable and uſeful to theſe patients. See I. 2. 4. 5.

Where the ſtomach may be ſuppoſed to be excoriated by poiſons containing acid, as ſublimate of mercury or arſenic; or if it be otherwiſe inflamed, or very ſenſible to the ſtimulus of the gaſtric acid; or where it abounds with acid of any kind, as in cardialgia; the exhibition of ſoap is perhaps a preferable manner of giving alcali than any other, as it decompoſes in the ſtomach without efferveſcence; while the cauſtic alcali is too acrid to be adminiſtered in ſuch caſes, and the mild alcali produces carbonic gas. If a drop of acid of vitriol be put on cap-paper, it will be long before it deſtroys the paper; but if a drop of mild alcali

 be

be added, a ſudden effervescence ariſes, and the paper is inſtantly deſtroyed by the eſcape of the fixed air; in the ſame manner as lumps of ſolid lime are broken into powder by the eſcape of the ſteam produced from the water, which is poured on them. This ſhews why a ſucceſſion of acid and of alcaline cauſtics ſooner deſtroys a part, than either of them applied ſeparately.

18. *Dyſenteria.* Bloody-flux is attended with ſenſitive fever, generally with arterial debility; with frequent mucous or bloody ſtools, which contain contagious matter produced by the membranes of the inteſtines; the alimentary excrement being, nevertheleſs, retained; with griping pains, and teneſmus.

Linneus obſerved microſcopic animals in the ſtools of dyſenteric patients, and concluded from thence that they were the cauſe of the diſeaſe; in the ſame manner the animalcula, ſeen by microſcopes, in the puſtules of the itch, have been ſuppoſed to be the cauſe of thoſe eruptions. See Article IV. 2. 1. 3. Theſe animalcula are nevertheleſs ſeen in almoſt all animal fluids which have for a time ſtagnated; as in the ſemen, and in all liquid evacuations from the inteſtines, as aſſerted by Buffon; who eſteems them to be organized beings, though not perfect animals, in his ingenious treatiſe on generation. Hiſtoire Naturel.

M. M. Emetics. Antimonials. Peruvian bark,

bark. Opium and calomel, of each a grain every night. Bolus armeniæ. Earth of alum. Chalk. Calcined hartſhorn. Mucilage. Bee's wax mixed with yolk of egg. Cerated glaſs of antimony. Warm bath. Flannel clothing next to the ſkin. Large clyſters with opium. With ipecacuanha, with ſmoke of tobacco? Two dyſenteric patients in the ſame ward, of the infirmary at Edinburgh, quarrelled, and whipped each other with horſewhips a long time, and were both much better after it, owing perhaps to the exertion of ſo much of the ſenſorial power of volition; which, like real inſanity, added excitement to the whole ſyſtem.

The prevention of this contagion muſt conſiſt principally in ventilation and cleanlineſs; hence the patients ſhould be removed into cottages diſtant from each other, or into tents; and their fæces buried as ſoon as may be; or conveyed into a running ſtream; and themſelves ſhould be waſhed with cold or warm water after every evacuation. For the contagious matter conſiſts in the mucous or purulent diſcharge from the membrane which lines the inteſtines; and not from the febrile perſpiration, or breath of the patients. For the fever is only the conſequence and not the cauſe of contagion; as appears from Genus the Fifth of this Order, where contagion exiſts without fever.

19. *Gaſtritis ſuperficialis.* Superficial inflammation

mation of the ſtomach. An eryſipelatous inflammation of the ſtomach is mentioned by Dr. Cullen from his own obſervations; which is diſtinguiſhed from the inflammatory gaſtritis by leſs pain and fever, and by an eryſipelatous redneſs about the fauces. Does this diſeaſe belong to aphtha?

20. *Enteritis ſuperficialis.* Superficial inflammation of the bowels is alſo mentioned by Dr. Cullen, from his own obſervation, under the name of enteritis erythematica; and is ſaid to be attended with leſs pain and fever, without vomiting, and with diarrhœa. May not this diſeaſe be referred to aphtha, or to dyſentery?

ORDO

ORDO I.

Increaſed Senſation.

GENUS IV.

With the Production of new Veſſels by internal Membranes or Glands, without Fever.

WHERE inflammation is produced in a ſmall part, which has not great natural ſenſibility, the additional ſenſation does not produce an increaſed action of the arterial ſyſtem; that is, the aſſociated motions which are employed in the circulation of the blood (thoſe for inſtance of the heart, arteries, glands, capillaries, and their correſpondent veins), are not thrown into increaſed action by ſo ſmall an addition of the ſenſorial power of ſenſation. But when parts which naturally poſſeſs more ſenſibility become inflamed, the quantity of the ſenſorial power of ſenſation becomes ſo much increaſed, as to affect the aſſociated motions belonging to the circulation, occaſioning them to proceed with greater frequency; that is, a fever is induced. This is well exemplified in the internal and ſuperficial paronychia; one of which is attended with great pain and fever, and the other with little pain and no fever. See Claſs II. 1. 2. 19. and II. 1. 4. 5.

From

From hence it appears, that the ſenſitive fever is an accidental conſequence of the topical phlegmon, or inflammation, and not a cauſe of it; that it is often injurious, but never ſalutary; and ſhould therefore always be extinguiſhed, as ſoon as may be, either by the lancet and cathartics, and diluents, and cold air, when it is of the irritated kind; or by the bark, opium, cool air, and nutrientia, when it is of the inirritated kind.

SPECIES.

1. *Ophthalmia ſuperficialis.* As the membranes, which cover the eye, are excluded from the air about one-third part of the twenty-four hours, and are moiſtened by perpetual nictitation during the other ſixteen, they may be conſidered as internal membranes; and, from the analogy of their inflammation to that of other internal membranes, it is arranged under this genus; whilſt the tonſillitis is eſteemed an inflammation of an external membrane, becauſe currents of air are perpetually paſſing both day and night over the fauces.

The ſuperficial ophthalmy has generally been eſteemed a ſymptom of ſcrofula, when it recurs frequently in young perſons; but is probably only a concomitant of that diſeaſe, as a ſymptom of general debility; ramifications of new red veſſels, and of enlarged old ones, are ſpread over the white part of the eye; and it is attended with leſs heat,

leſs

less pain, and less intolerance of light than the ophthalmia interna, described in Class II. 1. 2. 2. It occurs in those of feeble circulation, especially children of a scrofulous tendency, and seems to arise from a previous torpor of the vessels of the tunica albuginea from their being exposed to cold air; and from this torpor being more liable to occur in habits, which are naturally inirritable; and therefore more readily fall into quiescence by a smaller deduction of the stimulus of heat, than would affect stronger or more irritable habits; the consequence of this torpor is increased action, which produces pain in the eye, and that induces inflammation by the acquisition of the additional sensorial power of sensation.

Ophthalmia lymphatica is a kind of anasarca of the tunica adnata; in this the vessels over the sclerotica, or white part of the eye, rise considerably above the cornea, which they surround, are less red than in the ophthalmia superficialis, and appear to be swelled by an accumulation of lymph rather than of blood; it is probably owing to the temporary obstruction of a branch of the lymphatic system.

M. M. If the pain be great, venesection by leeches on the temple, or cutting the temporal artery, and one purge with three or four grains of calomel should be premised. Then the Peruvian bark twice a day. Opium from a quarter to half a grain twice a day, for some weeks. Bathe the

eye

eye frequently with cold water alone, or with cold water to a pint of which is added half an ounce of ſalt. White vitriol, ſix grains diſſolved in one ounce of water; a drop or two to be put between the eyelids twice a day. Take very ſmall electric ſparks from the eyes every day for a fortnight. Bathe the whole head with ſalt and water made warm, every night, for ſome months. Send ſuch children to a ſchool near the ſea, for the convenience of ſea-bathing, for many months, annually; ſuch ſchools are to be found in or near Liverpool.

When a child is afflicted with an inflamed eye of this kind, he ſhould always ſit with his back to the window or candle; but it is generally not neceſſary to cover it, or if the uneaſy ſenſation of light makes this proper, the cover ſhould ſtand off from the eye, ſo as not much to exclude the cool air from it. As covering an eye unneceſſarily is liable to make that eye weaker than the other, from its not being ſufficiently uſed, and thence to produce a ſquinting for ever afterwards.

Nevertheleſs, when the pain is great, a poultice muſt be applied to keep the eyes moiſt, or a piece of oiled ſilk bound lightly over them. Or thus, boil an egg till it is hard, cut it longitudinally into two hemiſpheres, take out the yolk, ſew the backs of the two hollow hemiſpheres of the white to a ribbon, and bind them over the eyes every night on going to bed; which, if nicely fitted on, will keep

keep the eyes moiſt without any diſagreeable preſſure. See Claſs I. 1. 3. 14.

Ophthalmia equina. An inflammation of this kind is liable to affect the eyes of horſes; one cauſe of which is owing to a ſilly cuſtom of cutting the hair out of horſes' ears; by which they are not only liable to take cold at the ear, but graſs-ſeeds are liable to fall into their ears from the high racks in ſtables; and in both caſes the eye becomes inflamed by ſympathy. I once directed the temporal artery of a horſe to be opened, who had frequent returns of an inflamed eye; and I believed it was of eſſential ſervice to him; it is probable that the artery was afterwards contracted in the wounded part, and that thence leſs blood was derived to the eye: the hæmorrhage was ſtopped by two perſons alternately keeping their fingers on the orifice, and afterwards by a long bandage of broad tape.

2. *Pterigion.* Eye-wing. A ſpot of inflammation ſometimes begins on the inſide of the lower eyelid, or on the tunica albuginea, and ſpreads an intertexture of red veſſels from it, as from a centre, which extend on the white part of the eye, and have the appearance of the wing of a fly, from whence its name.

M. M. Cut the ramifications of veſſels again and again, with the point of a lancet, cloſe to the centre of inflammation. Touch them repeatedly

with

with lunar cauſtic. See Home on the urethra. Page 101.

Mr. Hadley of Derby procured an ingenious inſtrument to be made to cut the veſſels, which had ſpread their numerous branches over an opake cornea, after a violent inflammation; by which they were repeatedly divided, with little pain to the patient, as there was no neceſſity to hold them by a forceps. The inſtrument was in the form of a corn-ſickle, or the early creſcent of the new moon, about an inch in length, the inner edge of the curve was ſharp, and the point fine; the back was rounded and ſmooth, and the other end fixed in an ivory handle. The point of this was ſuddenly introduced under the branches of the new veſſels, which were thus cut upwards, and there was no occaſion to hold the eye, or the trunks of the veſſels.

3. *Tarſitis palpebrarum.* Inflammation of the edges of the eyelids. This is a diſeaſe of the glands, which produce the hairs of the eyelaſhes, and is frequently the cauſe of their falling off. After this inflammation a hard ſcar-like ridge is left on the edge of the eyelid, which ſcratches and inflames the eyeball, and becomes a very troubleſome diſeaſe.

The Turkiſh ladies are ſaid to colour the edge of the eyelaſh with crude antimony in very fine powder, which not only gives luſtre to the eye,

as

as a diamond ſet on a black foil, but may prevent extraneous light from being reflected from theſe edges into the eye, and thus ſerve the purpoſe of the black feathers about the eyes of ſwans, deſcribed in Sect. XXXIX. 5. 1. and may alſo prevent the edges of the eyelids from being inflamed by the frequent ſtimulus of tears on them. Black lead in fine powder might be better for all theſe purpoſes than antimony, and might be put on with a camel's hair bruſh.

M. M. Mercurial ointment ſmeared at night on the edges of the eyelids. Burnt alum ſixty grains, hog's greaſe half an ounce, well rubbed into an ointment to be ſmeared on them in the night. Cold water frequently in the day. See Claſs II. 1. 1. 8.

4. *Hordeolum.* Stye. This inflammation begins either on or near the edges of the eyelids, or in the looſe ſkin of them, and is ſometimes very ſlow either in coming to ſuppuration or in diſperſing. The ſkin beneath the lower eyelid is the moſt frequent ſeat of this tumor, which ſometimes never ſuppurates at all, but becomes an encyſted tumor: for as this ſkin is very looſe for the purpoſe of admitting great motion to the eyelid, the abſorbent power of the veins ſeems particularly weak in this part; whence when any perſon is weakened by fatigue or otherwiſe, a darker ſhade of colour is ſeen beneath the eyes; which is owing to a leſs

energetic action of the abſorbent terminations of the veins, whence the currents of dark or venous blood are delayed in them. This dark ſhade beneath the eyes, when it is permanent, is a ſymptom of habitual debility, or inirritability of the circulating ſyſtem. See Claſs I. 2. 2. 2.

M. M. Smear the tumors with mercurial ointment, moiſten them frequently with ether. To promote their ſuppuration they may be wounded with a lancet, or ſlit down the middle, or they may be cut out. A cauſtic leaves a large ſcar.

5. *Paronychia ſuperficialis.* Whitlow. An inflammation about the roots of the nail beneath the ſkin, which ſuppurates without fever, and ſometimes deſtroys the nail; which is, however, gradually reproduced. This kind of abſceſs, though not itſelf dangerous, has given opportunity for the inoculation of venereal matter in the hands of accoucheurs, and of putrid matter from the diſſection of diſeaſed bodies; and has thus been the cauſe of diſeaſe and death. When putrid matter has been thus abſorbed from a dead body, a livid line from the finger to the ſwelled gland in the axilla is ſaid to be viſible; which ſhews the inflammation of the abſorbent veſſel along its whole courſe to the lymphatic gland; and death has generally been the conſequence.

M. M. In the common paronychia a poultice is generally ſufficient. In the abſorption of putrid

matter rub the whole hand and arm with mercurial ointment three or four times a day, or perpetually. Could the ſwelled axillary gland be exſected? In the abſorption of venereal matter the uſual methods of cure in ſyphilis muſt be adminiſtered, as in Claſs II. 1. 5. 1.

6. *Gutta roſea.* The roſy drop on the face is of three kinds. Firſt, the *gutta roſea hepatica*, or the red pimples on the faces of drunkards, which are probably a kind of criſis, or vicarious inflammation, which ſucceeds, or prevents, a torpor of the membranes of the liver. This and the ſucceeding ſpecies properly belong to Claſs IV. 1. 2. 14.

Secondly, the pimpled face, in conſequence of drinking cold water, or eating cold turnips, or other inſipid food, when much heated with exerciſe; which probably ariſes from the ſympathy between the ſkin of the face and the ſtomach; and may be called the *gutta roſea ſtomatica*. Which is diſtinguiſhed from the former by the habits of the patient in reſpect to drinking; by the colour of the eruptions being leſs deep; and by the patient continuing generally to be troubled with ſome degree of apepſia. See Claſs I. 3. 1. 3. I knew a lady who had long been afflicted with pain about the region of the ſtomach; and, on drinking half a pint of vinegar, as a medicine, ſhe had a breaking out commenced on her face; which remained, and ſhe became free from the pain about the

 ſtomach.

ſtomach. Was this a ſtomachic, or an hepatic diſeaſe?

Thirdly, there is a red face, which conſiſts of ſmaller pimples than thoſe above mentioned; and which is leſs liable to ſuppurate; and which ſeems to be hereditary, or at leaſt has no apparent cauſe like thoſe above mentioned; which may be termed *gutta roſea hereditaria*, or puncta roſea.

Mrs. S. had a pimpled face, which I believe aroſe from potation of ale. She applied alum in a poultice to it, and had ſoon a paralytic ſtroke, which diſabled her on one ſide, and terminated in her death.

Mrs. L. had a red pimpled face, which ſeemed to have been derived from her mother, who had probably acquired it by vinous potation; ſhe applied a quack remedy to it, which I believe was a ſolution of lead, and was ſeized with epileptic fits, which terminated in palſy, and deſtroyed her. This ſhews the danger of uſing white paint on the face, which is called biſmuth, but is in reality white lead or ceruſſa; and if it be biſmuth, it may be equally deleterious.

Mr. Y—— had acquired the gutta roſea on his noſe, and applied a ſaturnine ſolution on it for a few nights, and was then ſeized with paralyſis on one ſide of his face; which however he gradually recovered, and has ſince aquired the gutta roſea on other parts of his face.

Theſe fatal effects were probably cauſed by the diſagreeable

diſagreeable ſenſation of an inflamed liver, which uſed before to be relieved by the ſympathetic action and conſequent inflammation of the ſkin of the face, which was now prevented by the ſtronger ſtimulus of the application of calx of lead. The manner in which diſagreeable ſenſations induce epilepſy and palſy is treated of in Claſs III. In ſome caſes where habitual diſcharges, or eruptions, or ulcers, are ſtopped, a torpor of the ſyſtem may follow, owing to the want of the accuſtomed quantity of ſenſation or irritation. See Claſs I. 1. 2. 9. and II. 1. 5. 6. In both theſe ſituations ſome other ſtimulus ſhould be uſed to ſupply the place of that which is taken away; which may either be perpetual, as an iſſue; or periodical, as a cathartic repeated once a fortnight or month.

Miſs W. an elegant young lady, of about twenty, applied a mercurial lotion to her face, which was covered with very ſmall red points (which ſeemed to have been not acquired by any known or avoidable means); ſhe was ſeized with inflammation of her liver, and, after repeated bleeding and cathartics, recovered; and in a few weeks the eruption appeared as before.

M. M. Five grains of calomel once a month, with a cathartic, five grains of rhubarb and a quarter of a grain of emetic tartar every night for many weeks. With this preparation mercurial plaſters, made without turpentine, and applied every night, and taken off every morning, will ſometimes ſuc-

 ceed,

ceed, and may be uſed with ſafety. But bliſtering the face all over the eruption, beginning with a part, ſucceeds better than any other means, as I have more than once experienced.—Something like this is mentioned in the Letters of Lady Mary Wortley Montague, who bliſtered her face with balſam of Mecca.

Mrs. F. had for many years had a diſagreeably looking eruption on her chin. After a cathartic with calomel, ſhe was adviſed to bliſter her whole chin; on the healing of the bliſter a few eruptions again appeared, which ceaſed on the application of a ſecond bliſter. She took rhubarb five grains, and emetic tartar a quarter of a grain every night for many weeks.

Miſs L. a young lady, about eighteen, had tried variety of advice, for pimples over the greateſt part of her face, in vain. She took the above medicines internally, and bliſtered her face by degrees all over, and became quite beautiful. A ſpot or two now and then appeared, and on this account ſhe frequently ſlept with parts of her face covered with mercurial plaſter, made without turpentine, which was held on by a paſteboard maſk, and taken off in the mornings; if any part of the plaſter adhered, a little butter or oil deſtroyed the adheſion. If there be turpentine, or any other native balſam, mixed with the mercurial plaſter, it is very liable much to inflame the face (I ſuppoſe like the balſam of Mecca); but if a ſmall quantity of

of flour of brimſtone be added, I believe it will readily mix. As a mercurial ointment is ſaid to be quickly made by adding only ſix grains of flour of ſulphur to ſix drachms of mercury, and two ounces of hog's greaſe.

7. *Odontitis.* Inflammatory tooth-ach is occaſioned by inflammation of the membranes of the tooth, or a caries of the bone itſelf. The gum ſometimes ſuppurates, otherwiſe a ſwelling of the cheek ſucceeds by aſſociation, and thus the violence of the pain in the membranes of the tooth is relieved, and frequently cured; and when this happens the diſeaſe properly belongs to Claſs IV. as it ſo far reſembles the tranſlations of morbid actions in the gout and rheumatiſm.

At other times the tooth dies without caries, eſpecially in people about ſixty years of age, or before; and then it ſtimulates its involving membrane, like any other extraneous ſubſtance. The membrane then becomes inflamed and thickened, occaſioning ſome pain, and the tooth riſes upwards above the reſt, and is gradually puſhed out whole and undecayed; on its riſing up a pus-like mucus is ſeen diſcharged from the gum which ſurrounds it; and the gum ſeems to have left the tooth, as the fangs or roots of it are in part naked.

M. M. Where the tooth is ſound it can only be ſaved by evacuations, by veneſection, and a cathartic; and after its operation two grains of opium. A

blister may also be used behind the ear, and ether applied to the cheek externally. In slighter cases two grains of opium with or without as much camphor may be held in the mouth, and suffered to dissolve near the affected tooth, and be gradually swallowed. See Class I. 2. 4. 12. Odontalgia may be distinguished from otitis by the application of cold water to the affected tooth; for as the pain of common tooth-ach is owing to torpor, whatever decreases stimulus adds to the torpor and consequent pain; whereas the pain of an inflamed tooth, being caused by the increased action of the membranes of it, is in some measure alleviated by the application of cold.

8. *Otitis.* Inflammation and consequent suppuration of some membranes of the internal ear frequently occur in children, who sleep in cold rooms, or near a cold wall, without a night-cap. If the bones are affected, they come out in a long process of time, and the child remains deaf of that ear. But in this case there is generally a fever attends this inflammation; and it then belongs to another genus.

M. M. A warmer night-cap. Warmish water should be gently syringed into the ear, to keep it clean, twice a day; and if it does not heal in a week, a little spirit of wine should be added; first about a fourth part, and it should be gradually increased to half rectified spirit and half water: if it

it continues long to diſcharge matter with a very putrid ſmell, the bones are injured, and will in time find their exit; during which time the ear ſhould be kept clean, by filling it with a weaker mixture of ſpirit of wine and water, or a ſolution of alum in water; which may be poured into the ear, as the head is inclined, and ſhook out again by turning the head, two or three times morning and evening. See Claſs II. 1. 4. 10.

9. *Fiſtula lacrymalis.* The lacrymal ſack, with its puncta lacrymalia and naſal duct, are liable to be deſtroyed by ſuppuration without fever; the tears then run over the eyelids, and inflame the edges of them and the cheeks, by their perpetual moiſture and ſaline acrimony.

M. M. By a nice ſurgical operation, a new aperture is to be made from the internal corner of the eye into the noſtril, and a ſilver tube introduced, which ſupplies the defect by admitting the tears to paſs again into the noſtril. See Mélanges de Chirurgie, par M. Pouteau; who thinks he has improved this operation.

10. *Fiſtula in ano.* A mucous diſcharge from the anus, called by ſome white piles, or matter from a ſuppurated pile, has been miſtaken for the matter from a concealed fiſtula. A bit of cotton-wool applied to the fundament to receive the matter, and renewed twice a day for a week or two, ſhould

ſhould always be uſed before examination with the probe. The probe of an unſkilful empyric ſometimes does more harm in the looſe cellular membrane of theſe parts than the original ulcer, by making a fiſtula he did not find. The cure of a fiſtula in ano, of thoſe who have been much addicted to drinking ſpirituous liquor, or who have a tendency to pulmonary conſumption, is frequently of dangerous conſequence, and is ſucceeded by ulcers of the lungs, and death.

M. M. Ward's paſte, or 20 black pepper-corns taken after each meal twice a day; the pepper-corns ſhould be cut each into two or three pieces. The late Dr. Munro, of Edinburgh, aſſerted, in his lectures, that he had known a fiſtula in ano cured by injecting firſt a mixture of rectified ſpirit of wine and water; and, by gradually increaſing the ſtrength of it, till the patient could bear rectified ſpirit alone; by the daily uſe of which, at length, the ſides of the fiſtula became callous, and ceaſed to diſcharge, though the cavity was left. A French ſurgeon has lately affirmed, that a wire of lead put in at the external opening of the ulcer, and brought through the rectum, and twiſted together, will gradually wear itſelf through the gut, and thus effect a cure without much pain. The ends of the leaden wire muſt be twiſted more and more as it becomes looſe. Or, laſtly, it muſt be laid open by the knife.

11. *Fiſtula*

11. *Fistula urethræ.* Where a stricture of the urethra exists, from whatever cause, the patient, in forcing the stream of urine through the structure, distends the urethra behind it; which, after a time, is liable to burst, and to become perforated; and some of the urine is pushed into the cellular membrane, occasioning fistulas, which sometimes have large surfaces producing much matter, which is pressed out at the time of making water, and has been mistaken for a catarrh of the bladder; these fistulas sometimes acquire an external opening in the perinæum, and part of the urine is discharged that way.

Can this matter be distinguished from mucus of the bladder by the criterion delivered in Class II. 1. 6. 6.?

M. M. The perpetual use of bougies, either of catgut or of caoutchouc. The latter may be had at No. 37, Red-lion-street, Holborn, London. The former are easily made, by moistening the catgut, and keeping it stretched till dry, and then rounding one end with a pen-knife. The use of a warm bath every day for near an hour, at the heat of 94 or 96 degrees, for two or three months, I knew to be uncommonly successful in one case; the extensive fistulas completely healing. The patient should introduce a bougie always before he makes water, and endeavour to make it as slowly as possible. See Class I. 2. 3. 24.

12. *Hepa-*

12. *Hepatitis chronica.* Chronical inflammation of the liver. A collection of matter in the liver has frequently been found on dissection, which was not suspected in the living subject. Though there may have been no certain signs of such a collection of matter, owing to the insensibility of the internal parts of this viscus; which has thus neither been attended with pain, nor induced any fever; yet there may be in some cases reason to suspect the existence of such an abscess; either from a sense of fulness in the right hypochondre, or from transient pains sometimes felt there, or from pain on pressure, or from lying on the left side, and sometimes from a degree of sensitive fever attending it.

Dr. Saunders suspects the acute hepatitis to exist in the inflammation of the hepatic artery, and the chronical one in that of the vena portarum. Treatise on the Liver. Robinsons. London.

13. *Scrofula suppurans.* Suppurating scrofula. The indolent tumors of the lymphatic glands are liable, after a long time, to regain their sensibility; and then, owing to their former torpor, an increased action of the vessels, beyond what is natural, with inflammation, is the consequence of their new life, and suppuration succeeds. This cure of scrofula generally happens about puberty, when a new energy pervades the whole system, and unfolds the glands and organs of reproduction.

M. M. See

M. M. See Claſs I. 2. 3. 21. Where ſcrofulous ulcers about the neck are difficult to heal, Dr. Beddoes was informed, in Ireland, that an empyric had had ſome ſucceſs by inflaming them by an application of wood ſorrel, oxalis acetoſella, the leaves of which are bruiſed in a mortar, and applied on the ulcers for two or three days, and then ſome more lenient application is uſed.

A poor boy, about twelve years old, had a large ſcrofulous ulcer on one ſide of the cheſt beneath the clavicle, and another under his jaw; he was directed, about three weeks ago, to procure a pound of dry oak-bark from the tanners, and to reduce it to fine powder, and to add to it one ounce of white lead in fine powder, and to cover the ulcers daily with it, keeping it on by brown paper and a bandage. He came to me a few minutes ago, to ſhew me that both the ulcers are quite healed. The conſtant application of linen rags, moiſtened with a ſolution of an ounce of ſugar of lead in a pint of water, I think I have ſeen equally efficacious.

Small doſes internally of a ſolution of arſenic have been ſaid to contribute to cure theſe ulcers. I ſhould recommend from one drop to five of a ſaturated decoction of arſenic, as directed in Mat. Med. Art. IV. 2. 6. 8. for children, twice or thrice a day, according to their age, and from five to ten to grown perſons, diminiſhing the quantity if it affects the bowels.

bowels. Tincture of Digitalis is recommended in Class I. 2. 3. 21.

14. *Scorbutus suppurans.* In the sea-scurvy there exists an inactivity of venous absorption, whence vibices and petechiæ, and sometimes ulcers. As the column of blood pressing on the origins of the veins of the lower extremities, when the body is erect, opposes the ascent of the blood in them, they are more frequently liable to become enlarged, and to produce varixes, or vibices, or, lastly, ulcers about the legs, than on the upper parts of the body. The exposure to cold is believed to be another cause of ulcers on the extremities; as happens to many of the poor in winter, at Lisbon, who sleep in the open air, without stockings, on the steps of their churches or palaces. See Class I. 2. 1. 15.

M. M. A bandage spread with plaster to cover the whole limb tight. Rags dipped in a solution of sugar of lead. A warm flannel stocking or roller. White lead and oak-bark, both in fine powder. Horizontal rest. An ingenious treatise on the use of bandage, in the cure of ulcers, has lately been published by Mr. Baynton, of Bristol; and another, on the same subject, by Mr. Whately, of London, who succeeds without using plaster on the bandage.

15. *Scirrhus suppurans.* When a scirrhus affects

any gland of no great extent or ſenſibility, it is, after a long period of time, liable to ſuppurate without inducing fever, like the indolent tumors of the conglobate or lymphatic glands above mentioned; whence collections of matter are often found after death, both in men and other animals; as in the livers of ſwine, which have been fed with the grounds of fermented mixtures in the diſtilleries. Another termination of ſcirrhus is in cancer, as deſcribed below. See Claſs I. 2. 3. 22.

16. *Carcinoma.* Cancer. When a ſcirrhous tumor regains its ſenſibility by nature, or by any accidental hurt, new veſſels ſhoot amongſt the yet inſenſible parts of it, and a new ſecretion takes place of a very injurious material. This cancerous matter is abſorbed, and induces ſwelling of the neighbouring lymphatic glands; which alſo become ſcirrhous, and afterwards cancerous.

This cancerous matter does not ſeem to acquire its malignant or contagious quality, till the cancer becomes an open ulcer; and the matter ſecreted in it is thus expoſed to the air. Then it evidently becomes contagious, becauſe it not only produces hectic fever, like common matter in ulcers open to the air; but it alſo, as it becomes abſorbed, ſwells the lymphatic glands in its vicinity; as thoſe of the axilla, when the open cancer is on the breaſt. See Claſs II. 1. 3.

Hence exſection before the cancer is open is

generally

generally a cure; but after the matter has been exposed to the air, it is seldom of service; as the neighbouring lymphatic glands are already infected. I have observed some of these patients after the operation to have had diseased livers, which might either have previously existed, or have been produced by the fear or anxiety attending the operation.

Erosion with arsenic, after the cancer is become an open ulcer, has generally no better effect than exsection, but has been successful before ulceration. The best manner of using arsenic, is by mixing one grain with a drachm of lapis calaminaris, and strewing on the cancer some of the powder every day, till the whole is destroyed.

Cancers on the face are said to arise from the periosteum, and that, unless this be destroyed by the knife, or by caustics, the cancer certainly recurs. After the cancer becomes an open ulcer of some extent, a purulent fever supervenes, as from other open ulcers, and gradually destroys the patient. See Class II. 1. 6. 13.

Two very interesting cases have been lately published by Dr. Ewart, of Bath, in which carbonic acid gas, or fixed air, was kept constantly in contact with the open cancerous ulcers of the breast; which then healed like other common ulcers. This is rather to be ascribed to the exclusion of oxygen, than to any specific virtue in the carbonic acid. As in common ulcers the matter does not induce

hectic fever, till it has been exposed to the air, and then probably united with oxygen.

The manner of applying the fixed air, is by including the cancer in one half, or hemisphere, of a large bladder; the edges are made to adhere to the skin by adhesive plaster, or perhaps a mixture of one part of honey with about twenty parts of carpenter's glue might better suit some tender skins. The bladder is then kept constantly filled with carbonic acid gas, by means of a pipe in the neck of it; and the matter let out at a small aperture beneath.

M. M. Where extirpation is not advisable, as in most open cancers of the breast, keep the ulcer carefully from the air, either by applying carbonic acid gas, as above; or by covering it with charcoal in powder, and a double oiled silk. The charcoal-powder should be renewed once in two or three days, and at those times it should be pushed off by fresh charcoal-powder on lint, so as not for a moment to expose it to the air. The charcoal should be fresh taken from the fire, and powdered very fine as soon as cool, and kept in a bottle to be as little exposed to the air as possible.

The tumor should be suspended by a sash or soft cushion, so as to keep it as easy as possible night and day, and should be kept neither too warm nor too cold, as both extremes are injurious.

Internally, six grains of rhubarb every night,

for many months, and to drink nothing ſtronger than common weak ſmall beer, conſiſting of three ſtrike of malt to the hogſhead, or wine diluted with thrice its quantity of water.

If cauſtics cannot be applied ſo as to deſtroy the whole, even before ulceration, I ſuſpect that they aggravate the evil, and ſooner deſtroy the patient; as, I was well informed, occurred to a quack who was for a time much reſorted to, in this part of the country.

Another method of uſing charcoal-powder is by mixing it with boiled oil, to the conſiſtence of common paint; and to ſoak a piece of flannel with this, and cover the ulcer; and daily to ſhove or thruſt this off by applying the edge of another piece of flannel, ſoaked with the oil and charcoal, to the edge of that upon the ulcer, ſo as to change them without the poſſibility of letting any air come into contact with the cancerous ſore.

17. *Arthrocele.* Swelling of the joints ſeems to have its remote cauſe in the ſoftneſs of the bones, for they could not ſwell unleſs they were previouſly ſoftened, ſee Claſs I. 2. 2. 12. The epiphyſes, or ends of the bones, being naturally of a looſer texture, are moſt liable to this diſeaſe, and perhaps the cartilages and capſular ligaments may alſo become inflamed and ſwelled along with the heads of the bones. This malady is liable to diſtort the fingers and knees, and is uſually called gout

gout or rheumatiſm; the former of which is liable to diſable the fingers by chalk-ſtones, and thence to have ſomewhat a ſimilar appearance. But the arthrocele, or ſwelling of the joints, affects people who have not been intemperate in the uſe of fermented or ſpirituous liquors; or who have not previouſly had a regular gout in their feet; and in both theſe circumſtances differs from the gout. Nor does it accord with the inflammatory rheumatiſm, as it is not attended with fever, and becauſe the tumors of the joints never entirely ſubſide. The pain or ſenſibility, which the bones acquire when they are inflamed, may be owing to the new veſſels, which ſhoot in them in their ſoft ſtate, as well as to the diſtention of the old ones.

M. M. Half a grain of opium twice a day, gradually increaſed to a grain, but not further, for many months. Thirty grains of powder of bark twice a day for many months. Ten grains of bone-aſhes, or calcined hartſhorn, twice a day, with decoction of madder? Soda phoſphorata?

18. *Arthropuoſis.* Joint-evil. This differs from the former, as that never ſuppurates; theſe ulcers of the joints are generally eſteemed to ariſe from ſcrofula; but as ſcrofula is a diſeaſe of the lymphatic or abſorbent ſyſtem, and this conſiſts in the ſuppuration of the membranes, or glands, or car-

tilages about the joints, there does not ſeem a ſufficient analogy to authorize their arrangement under the ſame name.

The white ſwelling of the knee, when it ſuppurates, comes under this ſpecies, with variety of other ulcers, attended with carious bones.

19. *Caries oſſium*, or *Necroſis oſſium.* A caries of the bones may be termed a ſuppuration of them; it differs from the above, as it generally is occaſioned by ſome external injury, as in decaying teeth; or by venereal virus, as in nodes on the tibia; or by other matter derived to the bone in malignant fevers; and is not confined to the ends of them.

The ſeparation of the dead bone from the living is a work of ſome time. See Sect. XXXIII. 3. 1. A new and able work on the necroſis of bones is publiſhed by I. Ruſſel, Edinburgh; London, Robinſons. And another by I. P. Weidmann, de Necroſi Oſſium at Francfort; Booſey, London; which is alſo a valuable work.

M. M. When this diſeaſe is not formed in ſyphilis, or by metaſtaſis in fever, but is ſimply an inflammation of the perioſteum, or of the ſolid bone, or of its medullary cells, the method of cure ſhould conſiſt in evacuations by bleeding and cathartics, and by leeches applied to the painful or tumid parts; and afterwards by taking inwardly ſoda phoſphorata and a decoction of rubia tinctorum,

torum, madder-root; as the former is believed to give ſolidity to bones, and the latter, as it colours the bones of young or growing animals, is known to be carried thither during their ſofter or more ſenſitive ſtate, and may be therefore worth a trial. See Innutritio oſſium. Claſs I. 2. 2. 14.

ORDO I.

Increased Sensation.

GENUS V.

With the Production of new Vessels by external Membranes or Glands, without Fever.

' The ulcers, or eruptions, which are formed on the external skin, or on the mouth or throat, or on the air-cells of the lungs, or on the intestines, all of which are more or less exposed to the contact of the atmospheric air, which we breathe, and which in some proportion we swallow with our food and saliva; or to the contact of the inflammable air, or hydrogen, which is set at liberty by the putrefying aliment in the intestines, or by putrefying matter in large abscesses; all of them produce contágious matter; which, on being inoculated into the skin of another person, will produce fever, or a similar disease.

In some cases even the matter formed beneath the skin becomes in some degree contagious, at least so much so as to produce fever of the hectic or malignant kind, as soon as it has pierced through the skin, and has thus gained access to some kind of air; as the fresh pus of a common abscess; or the putrid pus of an abscess, which has been long confined; or of cancerous ulcers.

3 From

From this analogy there is reason to suspect that the matter of all contagious diseases, whether with or without fever, is not infectious till it has acquired something from the air; which, by oxygenating the secreted matter, may probably produce a new acid. And, secondly, that in hectic fever a part of the purulent matter is absorbed; or acts on the surface of the ulcer; as variolous matter affects the inoculated part of the arm. And that hectic fever is therefore caused by the matter of an open ulcer; and not by the sensation in the ulcer independent of the aerated pus, which lies on it. Which may account for the venereal matter from buboes not giving the infection, according to the experiments of the late Mr. Hunter, and for some other phenomena of contagion. See Variola discreta, Class II. 1. 3. 9.

SPECIES.

1. *Gonorrhœa venerea.* A pus-like contagious material discharged from the urethra after impure cohabitation, with smarting or heat on making water; which begins at the external extremity of the urethra, to which the contagious matter is applied, and where it has access to the air; which probably heightens its acrimony.

M. M. In this state of the venereal disease, once venesection, with mild cathartics of senna and manna, with mucilage, as almond emulsion, and

 gum

gum arabic, taken for two or three weeks, absolve the cure. Is camphor of use to relieve the ardor urinæ? Do balsams increase or lessen the heat of urine? Neutral salts certainly increase the smarting in making water, by increasing the acrimony of the urine.

Can the discharge from the urethra be soon stopped by saturnine injections, or mercurial ones, or with solution of blue vitriol, at first very dilute, and gradually made stronger? And at the same time, lest the syphilis, or general disease, should supervene, the patient might take a quarter of a grain of corrosive sublimate of mercury twice a day, as directed below?

There is a curious paper by Mr. Addington, of West Bromage, in the Contributions of Medical Knowledge, published by Dr. Beddoes, on the cure of gonorrhœa virulenta, by large doses of corrosive sublimate of mercury, hydrargyrus muriatus. Three grains of corrosive sublimate of mercury are dissolved in one ounce of rectified spirit of wine. Half of this mixture is taken undiluted at going to bed; it produces a copious salivation for an hour and a half, or longer, during which the patient spits a quart. Some Glauber's salts are to be taken on the second day after this operation, and on the evening of that day he is to repeat the draught, and the salts on the day but one following. And Mr. Addington witnessed that three or four such doses frequently cured a venereal gonorrhœa

gonorrhœa in ſo ſhort a time, without any diſagreeable conſequence, and was informed that hundreds had been cured by it.

The probable mode of action of this medicine is owing to the conſent of parts between the throat and the urethra, of which many inſtances are given in Claſs IV. 1, 2. 7. on Hydrophobia.

Mr. Wright, an elderly ſurgeon in Derby, thirty years ago, aſſured me that he had frequently given half a drachm of corroſive ſublimate as an emetic, without any inconvenience to the patient; and that it was the famous emetic of a celebrated empyric, and had been ſaid to do wonders.

Might not this doſe of one grain and a half, diſſolved in half an ounce of rectified ſpirit, be given repeatedly, with proſpect of advantage, in Hydrophobia? And perhaps, in an adapted ſtrength and quantity, in Hydrocephalus? If in Croup, Peripneumonia trachealis?

2. *Syphilis.* Venereal diſeaſe. The contagion ſhews itſelf in ulcers on the part firſt inoculated, as chancres; ulcers on the tonſils ſucceed, with eruption on the ſkin, eſpecially about the roots of the hair; afterwards on other parts of the ſkin, terminating in dry ſcabs; and, laſtly, with pain and ſwelling of the bones.

The corona veneris, or crown of Venus, conſiſts of the eruptions at the roots of the hair appearing moſt round the forehead; which is occaſioned

ſioned by this part being more expoſed to the air; which we obſerved, at the beginning of this genus, either produces or increaſes the virulence of contagious matter. But it is difficult to conceive, from this hiſtory, why the throat ſhould be firſt affected; as it cannot be ſuppoſed, that the diſeaſe is ſo often taken by the ſaliva, like the ſmall-pox, though this may ſometimes occur; perhaps very often. The connection between the genitals in men and the throat, is treated of in Claſs IV. 1. 2. 7. Hydrophobia.

M. M. A quarter of a grain of corroſive ſublimate of mercury, taken thrice a day for five or ſix weeks, made into a pill with bread-crumbs, or diſſolved in a ſpoonful of brandy and water, is a very efficacious and almoſt certain cure. When it does not ſucceed, it is owing either to the drug being bad, or to its having precipitated from the brandy, or from its being ſpoiled in the pill by long keeping. Opium contributes much to expedite the cure, both of the ſimple gonorrhœa and of venereal ulcers, by increaſing abſorption both from the mucous membrane and from the ſurface of ulcers. A quarter of a grain, or half a grain, may be given with every doſe of the ſublimate.

Nitrous acid has been lately ſtrongly recommended, by Mr. Scott, in venereal caſes; from an idea that the oxygen, which it conſiſts of in part, is looſely combined, and may be ſeparable in the animal ſyſtem; and that it may be the oxygen,

only,

only, which exiſts looſely in mercurial calces or oxydes, that acts ſo ſucceſsfully, when mercurials are exhibited. Some ſucceſsful exhibitions of this acid in venereal caſes are publiſhed; the doſe is one drachm and a half, or two drachms, of the ſtrong nitric acid mixed in two pounds of water, to be drunk daily at repeated intervals. Mr. Scott has ſince uſed the nitrous acid much diluted with water externally as a warm bath, either partially or generally, with great ſucceſs, at Bombay, in venereal caſes. See Article II. 2. 4. and IV. 2. 7. 1. in the Materia Medica.

It has been now uſed in this country with ſucceſs by ſome, and without ſucceſs by others, and may perhaps aſſiſt the uſe of mercurials as well as opium in the cure of venereal ulcers; but ſhould not yet be ſolely depended upon.

3. *Lepra.* Leproſy. Leproſy of the Greeks. The ſkin is rough with white branny ſcales, which are full of chinks; often moiſt beneath, and itching. The ſcales on the head or arms of ſome drinking people are a diſeaſe of this kind. The perſpirable matter deſigned for the purpoſe of lubricating the external ſkin is ſecreted in this diſeaſe in a too viſcid ſtate, owing to the inflammation of the ſubcutaneous veſſels; and, as the abſorbents act too ſtrongly at the ſame time, a viſcid mucus is left adhering to the ſurface of the ſkin.

In the leproſy of the Jews, deſcribed in the thirteenth

thirteenth and fourteenth chapters of Leviticus, the depreſſion of the ſore beneath the ſurface of the ſkin, and the hairs in it becoming white, ſeem to have been the principal circumſtances, which the prieſt was directed to attend to for the purpoſe of aſcertaining the diſeaſe.

M. M. Eſſence of antimony, from 20 drops to 100, twice or thrice a day, with half a pint of decoction of elm-bark; or of malt-tea; or tincture of cantharides, from 20 to 60 drops, four times a day; or ſublimate of mercury, with much diluting fluid. Acid of vitriol? Perhaps the cure chiefly depends on much dilution with water, from two to four pints a day, in which elm-bark, or pine-buds, or juniper-tops, may be boiled. Bath or Buxton water drunk in large quantities. Warm bath. Oil-ſkin bound on the part to confine the perſpirable matter. Ointment of tar and ſuet; or poultice for two or three days, and then cerate with lapis calaminaris. Diet of raiſins and bread. Abſtinence from wine, beer, and all ſpirits, is indiſpenſably neceſſary to the cure.

4. *Elephantiaſis.* Leproſy of the Arabs. A contagious diſeaſe; the ſkin is thickened, wrinkled, rough, unctuous, deſtitute of hair, without any ſenſation of touch in the extremities of the limbs; the face deformed with tubercles; the voice hoarſe, and with a naſal tone. Cullen.

5. *Fram-*

5. *Framboesia.* Yaws is said to be contagious and hereditary. It principally affects the negroes in the West Indies. Edinb. Essays, Vol. VI.

6. *Psora.* Itch. A contagious prurient eruption. There are two kinds of itch: that which appears between the fingers, and under the joints of the knees and elbows; and that which seldom is seen in these places, but all over the other parts of the body. The latter is seldom thought to be the itch, as it does not easily infect even a bed-fellow, and resists the usual means of cure by brimstone.

If the itch be cured too hastily, by rubbing mercurial or arsenical preparations over the whole body, or on too great a part of it, many bad symptoms are produced; as weakness of digestion, with pale bloated countenance, and tendency to dropsy. I have twice seen St. Vitus's dance occur, from the use of a mercurial girdle; and once a swelled liver. I have also seen a swelled spleen and swelled legs from the external use of arsenic in the cure of the itch. And very numerous and large phlegmons commonly succeed the too hasty cure of it by other means.

There does not appear a strict analogy between the hasty cure of the itch, and the retrocession of the pustules in the secondary fever of the small-pox; because in that the absorption of the matter is evinced by the swelling of the face and hands, as the

the puſtules recede, as explained in Claſs II. 1. 3. 9. Variola diſcreta. And a fever is produced by this abſorption; neither of which happen, when the puſtules of the itch are deſtroyed by mercury or arſenic.

Nor can theſe inconveniences, which occur on the too haſty cure of the itch, be explained by thoſe which follow the cure of ſome kinds of gutta roſea, Claſs II. 1. 4. 6. as in thoſe the eruptions on the face were an aſſociated diſeaſe with inflammation of the liver or ſtomach, which they were accuſtomed to relieve; whereas the itch is not known to have had any previous catenation with other diſeaſes.

In the itch there exiſts not only great irritation in the production of the puſtules, but great ſenſation is cauſed by their acrimony afterwards; inſomuch that the pain of itching, without the interrupted ſmarting occaſioned by ſcratching, would be intolerable. This great excitement of the two ſenſorial powers of irritation and ſenſation is ſo great, when the puſtules are diffuſed over the whole ſurface of the body, that a torpor ſucceeds the ſudden ceaſing of it; which affects thoſe parts of the ſyſtem which were moſt catenated with the new motions of the ſkin, as the ſtomach, whence indigeſtion and flatulency; or which are generally moſt liable to fall into torpor, as the numerous glands, which form the liver. Whence the diſeaſes conſequent to the haſty cure of the itch are diſeaſes

of

of debility, as tumid viſcera, œdematous ſwellings, and St. Vitus's dance, which is a debility of aſſociation. In the ſame manner indigeſtion, with green evacuations, are ſaid to follow an injudicious application of ceruſſa to ſtop too haſtily the exſudation behind the ears of children, Claſs I. 1 2. 9. And dropſies are liable to ſucceed the cure of old ulcers of the legs, which have long ſtimulated the ſyſtem.

M. M. The ſize of a large pea, of an ointment conſiſting of one part of white precipitate of mercury to ſix parts of hog's lard well triturated together, to be rubbed on a part of the body every night, and waſhed off with ſoap and water next morning, till every part is cleared; with lac ſulphuris twenty grains to be taken every morning inwardly. Warm ſaline bath, with white vitriol in it. Flowers of ſulphur mixed with thick gruel, or with hog's fat. With either of which the body may be ſmeared all over.

Mr. Grille ſays, that thoſe who get manganeſe from its mines are not ſubject to the itch; and that he found an ointment, compoſed of ſix parts of finely levigated manganeſe and of ſixteen parts of lard, a more efficacious remedy for the itch than thoſe in common uſe. Parmentier.

7. *Pſora ebriorum.* Elderly people, who have been much addicted to ſpirituous drinks, as beer, wine, or alcohol, are liable to an eruption all over their

their bodies; which is attended with very afflicting itching, and which they probably propagate from one part of their bodies to another with their own nails by fcratching themfelves. I faw fatal effects in one fuch patient, by a too extenfive ufe of a folution of lead; the eruption difappeared, he became dropfical, and died; I fuppofe from the too fuddenly ceafing of the great ftimulus caufed by the eruptions over the whole fkin, as in the preceding article.

M. M. The patient fhould gradually accuftom himfelf to half his ufual quantity of vinous potation. The warm bath, with one pound of falt to every three gallons. Mercurial ointments on fmall parts of the fkin at a time. A grain of opium at night inftead of the ufual potation of wine or beer.

8. *Herpes.* Herpes confifts of gregarious fpreading excoriations, which are fucceeded by branny fcales or fcabs. In this difeafe there appears to be a deficient abforption of the fubcutaneous mucus, as well as inflammation and increafed fecretion of it. For the fluid not only excoriates the parts in its vicinity by its acrimony, but is very faline to the tafte, as fome of thefe patients have affured me; I believe this kind of eruption, as well as the tinea, and perhaps all other cutaneous eruption, is liable to be inoculated in other parts of the body by the finger-nails of the patients in fcratching themfelves.

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It is liable to affect the hands, and to return at distant periods; and is probably a secondary disease, as well as the zona ignea, or shingles, described below.

M. M. Poultice the eruption with bread and milk, or raw carrots grated, for two or three whole days, to dilute or receive the discharged fluid, and abate the inflammation; then cover the parts with fresh cerate mixed with lapis calaminaris. On the parts not excoriated mercurial ointment, made of one part of white calx of mercury and six of hog's fat. Internally, after venesection, gentle repeated cathartics. Lastly, the bark. Acid of vitriol. Bolus Armeniæ, or testacea. Antimonials. Decoction of interior bark of elm.

9. *Zona ignea.* Shingles. This eruption has been thought a species of herpes by some writers, and by others a species of erysipelas. Yellow or livid vesicles appear, producing a corrosive ichor, which is sometimes attended with a degree of fever. It is said to infest sometimes the thorax and ribs, but its most general situation is on the small of the back, over one kidney, extending forward over the course of one of the ureters.

There is reason to suspect, that this also is a secondary or sympathetic disease, as well as the preceding one; but future observations are required, before it can be removed to the fourth class, or diseases of association. In three patients I have

 been

been induced to believe, that the eruption on the loins was a tranſlation of inflammation from the external membrane of the kidney to the ſkin. They had, for a day or two before the appearance of the eruption, complained of a dull pain on the region of one kidney, but without vomiting; by which it was diſtinguiſhed from nephritis interna, or gravel; and without pain down the outſide of the thigh, by which it was diſtinguiſhed from ſciatica. In other ſituations the ſhingles may ſympathize with other internal membranes, as in a caſe publiſhed by Dr. Ruſſel (De Tabe Glandulari), where the retroceſſion of the ſhingles was ſucceeded by a ſerious dyſpnœa.

M. M. Veneſection, if the pulſe is ſtrong. Calomel three or four grains, very mild repeated cathartics. Poultice for a few days, then cerate of lapis calaminaris, as in herpes. A grain of emetic tartar diſſolved in a pint of water, and taken ſo as to empty the ſtomach and inteſtines, is ſaid much to haſten the cure; compreſſes ſoaked in a ſaturnine ſolution are recommended externally on the eruption; and cerate where there are ulcerations. Deſanet's Surgical Journal, Vol. II. p. 378. If this be a vicarious diſeaſe, it ſhould continue half a lunation; leſt, on its ceaſing, the bad habits of motion of the primary diſeaſe ſhould not have been ſo perfectly diſſevered, but that they may recur.

10. *Annulus*

10. *Annulus repens.* Ring-worm. A prurient eruption formed in a circle, affecting children, and would ſeem to be the work of inſects, according to the theory of Linnæus, who aſcribes the itch and dyſentery to microſcopic animalcula. Theſe animalcula are probably the effect, and not the cauſe, of theſe eruptions; as they are to be ſeen in all putreſcent animal fluids. The annular propagation of the ring-worm, and its continuing to enlarge its periphery, is well accounted for by the acrimony of the ichor or ſaline fluid eroding the ſkin in its vicinity.

M. M. Cover the eruption daily with ink. With white mercurial ointment, as deſcribed above in herpes. With ſolution of white vitriol ten grains to an ounce. Theſe metallic calces ſtimulate the abſorbents into ſtronger action, whence the fluid has its ſaline part reabſorbed, and that before it has acceſs to the air, which probably adds to its acrimony by oxygenating it, and thus producing a new acid.

11. *Tinea.* Scald head. This contagious eruption affects the roots of the hair, and is generally moſt virulent round the edges of the hair on the back part of the head; as the corona veneris appears moſt on the edges of the hair on the fore part of the head: for in theſe parts the eruption about the roots of the hair is moſt expoſed to the

external air, by which its acrimony or noxious quality is increaſed.

The abſorption of the matter thus oxygenated ſwells the lymphatics of the neck by its ſtimulus, occaſioning many little hard lumps beneath the ſeat of the eruption; when this happens, the ſooner it is cured the better, leſt the larger lymphatics of the neck ſhould become affected.

M. M. The art of curing theſe eruptions conſiſts, firſt, in abating the inflammation, and conſequent ſecretion of a noxious material. Secondly, in preventing its acceſs to the air, which ſo much increaſes its acrimony. And thirdly, in promoting the abſorption of it, before it has been expoſed to the air. For theſe purpoſes veneſection once, and gentle cathartics, which promote abſorption by emptying the blood-veſſels. Next poultices and fomentations, with warm water, abate inflammation by diluting the ſaline acrimony of the ſecreted fluid, and abating the painful ſenſation. Afterwards cerate joined with ſome metallic calx, as of zinc or lead, or ſolution of lead, mercury, or copper, or iron, which may ſtimulate the abſorbent ſyſtem into ſtronger action.

Cover the ſhaved head with tar and ſuet, and a bladder; this, by keeping the air from the ſecreted fluid, much contributes to its mildneſs, and the ſtimulus of the tar increaſes its abſorption. See the three preceding ſpecies of this genus.

Mr.

Mr. Moriſon of Dublin cures the tinea capitis by what he terms an adheſive paſte, which is made by boiling half a pound of fine flour in two pounds of common ale, and then adding four ounces of yellow reſin in fine powder, and ſtirring them well together, until they are perfectly incorporated. After removing the hair, and poulticing the head for a day or two, to take off the hard ſcabs, this paſte is ſpread on ſlips of linen, which are applied over the whole affected part, and removed and freſh ones applied every morning, —after one or two days, I ſuſpect, that removing the plaſters ſeldomer might be more advantageous.

12. *Cruſta lactea.* Milk-cruſt is a milder diſeaſe than tinea, affecting the face as well as the hairy ſcalp of very young children. It is not infectious, nor liable to ſwell the lymphatics in its vicinity like the tinea.

M. M. Cover the eruption with cerate made with lapis calaminaris, to be renewed every day. Mix one grain of emetic tartar with forty grains of chalk, and divide into eight papers, one to be taken twice a day; or with magneſia alba, if ſtools are wanted. The child ſhould be kept cool and much in the air.

13. *Trichoma.* Plica polonica. A contagious diſeaſe, in which the hair is ſaid to become alive and

and bleed, forming inextricable knots or plaits of great length, like the fabled head of Medusa, with intolerable pain, so as to confine the sufferer on his bed for years.

ORDO

ORDO I.

Increased Sensation.

GENUS VI.

With Fever consequent to the Production of new Vessels or Fluids.

SPECIES.

1. *Febris sensitiva.* Sensitive fever, when unmixed with either irritative or inirritative fever, may be distinguished from either of them by the less comparative diminution of muscular strength; or in other words, from its being attended with less diminution of the sensorial power of irritation. An example of unmixed sensitive fever may generally be taken from the pulmonary consumption; in this disease patients are seen to walk about with ease, and to do all the common offices of life for weeks, and even months, with a pulse of 120 strokes in a minute; while in other fevers, whether irritated or inirritated, with a pulse of this frequency, the patient generally lies upon the bed, and exerts no muscular efforts without difficulty.

The cause of this curious phenomenon is thus to be understood; in the sensitive fever a new sensorial power, viz. that of sensation, is superadded to that of irritation; which in other fevers

alone carries on the increafed circulation. Whence the power of irritation is not much more exhauft-ed than in health; and thofe mufcular motions, which are produced in confequence of it, as thofe which are exerted in keeping the body upright in walking, riding, and in the performance of many cuftomary actions, are little impaired. For an account of the irritated fenfitive fever, fee Clafs II. 1. 2. 1.; for the inirritated fenfitive fever, Clafs II. 1. 3. 1. IV. 2. 4. 11.

2. *Febris a pure claufo.* Fever from enclofed matter is generally of the irritated fenfitive kind, and continues for many weeks, and even months, after the abfcefs is formed; but is diftinguifhed from the fever from aerated matter in open ulcers, becaufe there are feldom any night-fweats, or colliquative diarrhœa in this, as in the latter. The pulfe is alfo harder, and requires occafional venefection, and cathartics, to abate the inflammatory fever; which is liable to increafe again every three or four days, till at length, unlefs the matter has an exit, it deftroys the patient. In this fever the matter, not having been expofed to the air, has not acquired oxygenation; in which a new acid, or fome other noxious property, is produced; which acts like contagion on the conftitution inducing fever-fits, called hectic fever, which terminate with fweats or diarrhœa; whereas the matter in the clofed abfcefs is either not abforbed, or does not

not ſo affect the circulation as to produce diurnal or hectic fever-fits; but the ſtimulus of the abſceſs excites ſo much ſenſation as to induce perpetual pyrexia, or inflammatory fever, without ſuch marked remiſſions. Nevertheleſs there ſometimes is no fever produced, when the matter is lodged in a part of little ſenſibility, as in the liver; yet a white pus-like ſediment in thoſe caſes exiſts I believe generally in the urine, with occaſional wandering pains about the region of the liver or cheſt.

3. *Vomica.* An abſceſs in the lungs is ſometimes produced after peripneumony, the cough and ſhortneſs of breath continue in leſs degree, with difficulty in lying on the well ſide, and with ſenſitive irritated fever, as explained in the preceding article.

The occaſional increaſe of fever, with hard pulſe and ſizy blood, in theſe patients, is probably owing to the inflammation of the walls of the vomica; as it is attended with difficulty of breathing, and requires veneſection. Mr. B——, a child about ſeven years old, lived about ſeven weeks in this ſituation, with a pulſe from 150 to 170 in a minute, without ſweats, or diarrhœa, or ſediment in his water, except mucus occaſionally; and took ſufficient nouriſhment during the whole time. The blood taken was always covered with a ſtrong cupped ſize, and on his death three or four pints of matter were found in one ſide of the cheſt; which

which had probably, but lately, been effuſed from a vomica. This child was frequently induced to ſwing, both in a reciprocating and in a rotatory ſwing, without any apparent abſorption of matter; in both theſe ſwings he expreſſed pleaſure, and did not appear to be vertiginous.

M. M. Repeated emetics. Digitalis? Perſeverance in rotatory ſwinging. See Claſs II. 1. 6. 7.

Mr. I. had laboured ſome months under a vomica after a peripneumony, he was at length taken with a catarrh, which was in ſome degree endemic in March 1795, which occaſioned him to ſneeze much, during which a copious hæmorrhage from the lungs occurred, and he ſpit up at the ſame time half a pint of very fetid matter, and recovered. Hence errhines may be occaſionally uſed with advantage.

4. *Empyema.* When the matter from an abſceſs in the lungs finds its way into the cavity of the cheſt, it is called an empyema. A ſervant man, after a violent peripneumony, was ſeized with ſymptoms of empyema, and it was determined, after ſome time, to perform the operation; this was explained to him, and the uſual means were employed by his friends to encourage him, " by adviſing him not to be afraid." By which good advice he conceived ſo much fear, that he ran away early next morning, and returned in about

about a week quite well. Did the great fear promote the abſorption of the matter, like the ſickneſs occaſioned by digitalis? Fear renders the external ſkin pale; by this continued decreaſe of the action of the abſorbents of the ſkin might not thoſe of the lungs be excited into greater activity? and thus produce increaſed pulmonary abſorption by reverſe ſympathy, as it produces pale urine, and even ſtools, by direct ſympathy?

M. M. Digitalis?

5. *Febris Meſenterica.* Fever from matter formed in the meſentery is probably more frequent than is ſuſpected. It commences with pain in the bowels, with irritated ſenſitive fever; and continues many weeks, and even months, requiring occaſional veneſection, and mild cathartics; till at length the continuance of the pyrexia, or inflammatory fever, deſtroys the patient. This is an affection of the lymphatic glands, and properly belongs to ſcrofula; but as the matter is not expoſed to the air, no hectic fever, properly ſo called, is induced.

6. *Febris a pure aerato.* Fever from aerated matter. A great collection of matter often continues a long time, and is ſometimes totally abſorbed, even from venereal buboes, without producing any diſorder in the arterial ſyſtem. At length, if it becomes putrid by its delay, and one part of the

matter

matter thus becomes aerated by the air given out by the other part; or if the ulcer has been opened, ſo that any part of it has been expoſed to the air for but one day, a hectic fever is produced. Whence the utility ariſes of opening large abſceſſes by ſetons, as in that caſe little or no hectic fever is induced; becauſe the matter is ſqueezed out by the ſide of the ſpongy threads of cotton, and little or no air is admitted; or by tapping the abſceſs with a trocar, as mentioned in iſchias, Claſs II. 1. 2. 18.

In this fever the pulſe is about 120 in a minute, and its acceſs is generally in an evening, and ſometimes about noon alſo, with ſweats or purging towards morning, or urine with pus-like ſediment; and the patients bear this fever better than any other with ſo quick a pulſe; and laſtly, when all the matter from a concealed ulcer is abſorbed, or when an open ulcer is healed, the hectic fever ceaſes. Here the abſorbed matter is ſuppoſed to produce the fever, and the diarrhœa, ſweats, or copious muddy urine, to be ſimply the conſequence of increaſed ſecretion, and not to conſiſt of the purulent matter, which was ſuppoſed to be abſorbed from the ulcer. See Sudor calidus, Claſs I. 1. 2. 3.

The action of the air on ulcers, as we have already ſhewn, increaſes the acrimony of the purulent matter, and even converts it into a weaker kind of contagious matter; that is, to a material inducing

inducing fever. This was aſcribed to the union of the azotic part of the atmoſphere with the effuſed pus in Sect. XXVIII. 2. but by contemplating more numerous facts and analogies, I am now induced to believe, that it is by the union of oxygen with it; firſt, becauſe oxygen ſo greedily unites with other animal ſubſtances, as the blood, that it will paſs through a moiſt bladder to combine with it, according to the experiment of Dr. Prieſtley. Secondly, becauſe the poiſons of venomous creatures are ſuppoſed to be acids of different kinds, and are probably formed by the contact of air after their ſecretion. And laſtly, becauſe the contagious matter from other ulcers, as in itch, or ſmall-pox, is formed on external membranes, and are probably combinations of animal matter and oxygen, producing other new acids.

Since having written the above, Dr. Mitchill, of New York, has ſpoken much of the ſeptic quality of azote, or nitrogen; and thinks that it is the union of this part of the atmoſphere with the matter of ulcers, which produces or increaſes its contagious or fever-exciting property; which I had myſelf at firſt believed, as mentioned in Part I. Sect. XXVIII. 2. In ſupport of this opinion, it may be ſaid, that proper ventilation with purer air is believed certainly to diminiſh or deſtroy infection; as ſpoken of in Claſs II. 1. 3. where it is propoſed to diſengage oxygen from manganeſe, for the purpoſe of purifying crowded apartments.

But

But further experiments muſt determine this curious inquiry; which might be attended with important conſequences, if azote, and not oxygen, could be ſhewn to prevent the healing of pulmonary ulcers; as oxygen might be reſpired alone, or mixed with hydrogen or with carbonic acid gas, inſtead of with azote.

It was thought a ſubject of conſequence by the Æſculapian Society at Edinburgh, to find a criterion which ſhould diſtinguiſh pus from mucus, for the purpoſe of more certainly diſcovering the preſence of ulcers in pulmonary diſeaſes, or in the urinary paſſages. For this purpoſe that ſociety offered their firſt gold medal, which was conferred on the late Mr. Charles Darwin, in the year 1778, for his experiments on this ſubject. From which he deduces the following concluſions:

" 1. Pus and mucus are both ſoluble in the vitriolic acid, though in very different proportions, pus being much the leſs ſoluble.

" 2. The addition of water to either of theſe compounds decompoſes it; the mucus thus ſeparated, either ſwims on the mixture, or forms large flocci in it; whereas the pus falls to the bottom, and forms on agitation a uniform turbid mixture.

" 3. Pus is diffuſible through a diluted vitriolic acid, though mucus is not; the ſame occurs with water, or a ſolution of ſea ſalt.

" 4. Nitrous acid diſſolves both pus and mucus;

water added to the ſolution of pus produces a precipitate; and the fluid above becomes clear and green; while water and the ſolution of mucus form a dirty coloured fluid.

" 5. Alkaline lixivium diſſolves (though ſometimes with difficulty) mucus, and generally pus.

" 6. Water precipitates pus from ſuch a ſolution, but does not mucus.

" 7. Where alkaline lixivium does not diſſolve pus, it ſtill diſtinguiſhes it from mucus; as it then prevents its diffuſion through water.

" 8. Coagulable lymph is neither ſoluble in diluted nor concentrated vitriolic acid.

" 9. Water produces no change on a ſolution of ſerum in alkaline lixivium, until after long ſtanding, and then only a very ſlight ſediment appears.

" 10. Corroſive ſublimate coagulates mucus, but not pus.

" From the above experiments it appears, that ſtrong vitriolic acid and water, diluted vitriolic acid, and cauſtic alkaline lixivium and water, will ſerve to diſtinguiſh pus from mucus; that the vitriolic acid can ſeparate it from coagulable lymph, and alkaline lixivium from ſerum.

" And hence, when a perſon has any expectorated material, the compoſition of which he wiſhes to aſcertain, let him diſſolve it in vitriolic acid, and in cauſtic alkaline lixivium; and then add pure water to both ſolutions: and if there is a fair precipitation

cipitation in each, he may be aſſured that ſome pus is preſent. If in neither a precipitation occurs, it is a certain teſt, that the material is entirely mucus. If the material cannot be made to diſſolve in alkaline lixivium by time and trituration, we have alſo reaſon to believe that it is pus." Experiments on Pus and Mucus. Cadell. London.

Dr. Cappe, of York, in his inaugural treatiſe de Hectica, and Dr. Ryan, of Dublin, in his Eſſay on Conſumption, have repeated theſe experiments of Mr. Darwin with nearly ſimilar reſults.

7. *Phthiſis pulmonalis.* In pulmonary conſumption the fever is generally ſuppoſed to be the conſequence of the ſtimulus of abſorbed matter circulating in the blood-veſſels, and not ſimply of its ſtimulus on their extremities in the ſurface of the ulcers; as mentioned in Claſs II. 1. 5. and Claſs II. 1. 3. 9. The ulcers are probably ſometimes occaſioned by the putrid acrimony of effuſed blood remaining in the air-cells of the lungs after an hæmoptoe. See Claſs I. 2. 1. 9. The remote cauſe of conſumption is ingeniouſly aſcribed by Dr. Beddoes to the hyper-oxygenation of the blood, as mentioned Section XXVIII. 2.

As the patients liable to conſumption are of the inirritable temperament, as appears by the large pupils of their eyes; there is reaſon to believe, that the hæmoptoe is immediately occaſioned by the deficient abſorption of the blood at the extremities

tremities of the bronchial vein; and that one difficulty of healing the ulcers is occaſioned by the deficient abſorption of the fluids effuſed into them. See Sect. XXX. 1. and 2.

The difficulty of healing pulmonary ulcers may be owing, as its remote cauſe, to the inceſſant motion of all the parts of the lungs; whence no ſcab, or indurated mucus, can be formed ſo as to adhere on them. Whence theſe naked ulcers are perpetually expoſed to the action of the air on their ſurfaces, converting their mild purulent matter into a contagious ichor; which not only prevents them from healing, but by its action on their circumferences, like the matter of itch or tinea, contributes to ſpread them wider. See the preceding article, and Sect. XXXIII. 2. 7. where the pulmonary phthiſis is ſuppoſed to be infectious.

This acidifying principle is found in all the metallic calces, as in lapis calaminaris, which is a calciform ore of zinc; and in minium, which is a calx of lead; two materials which are powerful in healing excoriations and ulcers, in a ſhort time, by their external application. How then does it happen, that the oxygen in the atmoſphere ſhould prevent pulmonary ulcers from healing, and even induce them to ſpread wider; and yet in its combination with metals, it ſhould facilitate their healing? The healing of ulcers conſiſts in promoting the abſorption of the fluids effuſed into them, as treated of in Section XXXIII. 3. 2. Oxygen in combi-

 nation

nation with metals, when applied in certain quantity, produces this effect by its stimulus; and the metallic oxydes not being decomposed by their contact with animal matter, no new acid, or contagious material, is produced. So that the combined oxygen, when applied to an ulcer, simply I suppose promotes absorption in it, like the application of other materials of the articles sorbentia or incitantia, if applied externally; as opium, bark, alum. But in the pulmonary ulcers, which cannot protect themselves from the air by forming a scab, the uncombined oxygen of the atmosphere unites with the purulent matter, converting it into a contagious ichor; which by infection, not by erosion, enlarges the ulcers, as in the itch or tinea; which might hence, according to Dr. Beddoes's ingenious theory of consumption, be induced to heal, if exposed to an atmosphere deprived of a part of its oxygen. This I hope future experiments will confirm, and that the pneumatic medicine will alleviate the evils of mankind in many other, as well as in this most fatal malady.

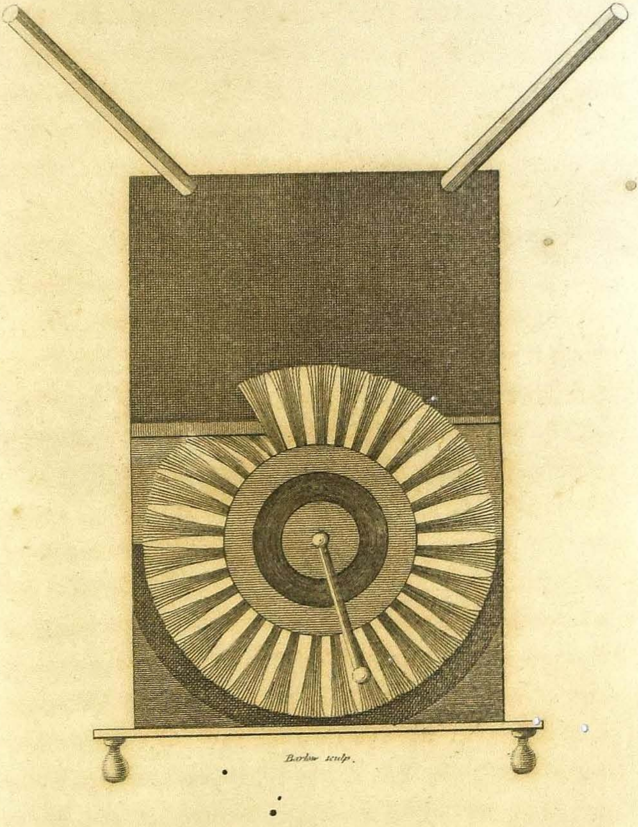
M. M. First, the respiration of air lowered by an additional quantity of azote, or mixed with some proportion of hydrogen, or of carbonic acid air, may be tried; as described in a late publication of Dr. Beddoes on the medicinal use of factitious airs. Johnson, London. Or lastly, by breathing a mixture of one-tenth part of hydrocarbonate mixed with common air, according to the discovery

covery of Mr. Watt, which has a double advantage in these cases, of diluting the oxygen of the atmospheric air, and inducing sickness, which increases pulmonary absorption, as mentioned below. An atmosphere diluted with fixed air (carbonic acid) might be readily procured by setting tubs of new wort, or fermenting beer, in the parlour and lodging-room of the patient. For it is not acids floating in the air, but the oxygen or acidifying principle, which injures or enlarges pulmonary ulcers by combining with the purulent matter.

Another easy method of adding carbonic acid gas to the air of a room, would be by means of an apparatus invented by Mr. Watt, and sold by Bolton and Watt, at Birmingham, as described in Dr. Beddoes' Treatise on Pneumatic Medicine. Johnson, London. It consists of an iron pot, with an arm projecting, and a method of letting water drop by slow degrees on chalk, which is to be put into the iron pot, and exposed to a moderate degree of heat over a common fire. By occasionally adding more and more chalk, carbonic acid gas might be carried through a tin pipe from the arm of the iron pot to any part of the room near the patient, or from an adjoining room. In the same manner a diffusion of solution of flowers of zinc might be produced and breathed by the patient, and would be likely much to contribute to the healing of pulmonary ulcers; as observed by Mr. Watt. See the treatise above mentioned.

Breathing over the vapour of cauſtic volatile alkali might eaſily be managed for many hours in a day; which might neutralize the acid poiſon formed on pulmonary ulcers by the contact of oxygen, and thus prevent its deleterious quality, as other acids become leſs cauſtic, when they are formed into neutral ſalts with alkalis. The volatile ſalt ſhould be put into a tin caniſter, with two pipes like horns from the top of it, one to ſuck the air from, and the other to admit it.

Secondly, the external ulcers in ſcrofulous habits are pale and flabby, and naturally diſinclined to heal, the depoſition of fluids in them being greater than the abſorption; theſe ulcers have their appearance immediately changed by the external application of metallic calxes, and the medicines of the article Sorbentia, ſuch as ceruſſa and the bark in fine powder, ſee Claſs I. 2. 3. 21. and are generally healed in a ſhort time by theſe means. Induced by theſe obſervations, I wiſhed to try the external application of ſuch powders to ulcers in the lungs, and conſtructed a box with a circulating bruſh in it, as deſcribed in the annexed plate; into this box two ounces of fine powder of Peruvian bark were put, and two drachms of ceruſſa in fine powder; on whirling the central bruſh, part of this was raiſed into a cloud of powder, and the patient, applying his mouth to one of the tin pipes riſing out of the box, inhaled this powder twice a day into his lungs. I obſerved it did not produce any cough



Barlow sculp.

cough or uneaſineſs. This patient was in the laſt ſtage of conſumption, and was ſoon tired of the experiment, nor have I had ſuch patients as I wiſhed for the repetition of it. Perhaps a fine powder of manganeſe, or of the flowers of zinc, or of lapis calaminaris, might be thus applied to ulcers of the lungs with greater advantage? Perhaps air impregnated with flowers of zinc in their moſt comminuted ſtate, might be a better way of applying this powder to the lungs, as diſcovered by Mr. Watt. See Dr. Beddoes on Pneumatic Medicine. Johnſon.

Thirdly, as the healing of an ulcer conſiſts in producing a tendency to abſorption on its ſurface greater than the depoſition on it; ſee Sect. XXXIII. 3. 2. Other modes of increaſing pulmonary abſorption, which are perhaps more manageable than the preceding ones, may be had recourſe to; ſuch as by producing frequent nauſea or ſickneſs. See Sect. XXIX. 5. 1. and Art. IV. 2. The great and ſudden abſorption of fluid from the lungs in the anaſarca pulmonum by the ſickneſs induced by the exhibition of digitalis, aſtoniſhes thoſe who have not before attended to it, by emptying the ſwelled limbs, and removing the difficulty of breathing in a few hours.

The moſt manageable method of uſing digitalis is by making a ſaturated tincture of it, by infuſing two ounces of the powder of the leaves in a mixture of four ounces of rectified ſpirit of wine, and

four ounces of water. Of this from 30 to 60 drops, or upwards, from a two-ounce phial, are to be taken twice in the morning part of the day, and to be so managed as not to induce violent sickness. If sickness nevertheless comes on, the patient must for a day or two omit the medicine; and then begin it again in reduced doses.

Mr. ——, a young man about twenty, with dark eyes, and large pupils, who had every symptom of pulmonary ulcers, I believed to have been cured by digitalis, and published the case in the Transactions of the College, Vol. III. But I heard, that about two years afterwards he relapsed and died. Mr. L——, a corpulent man, who had for some weeks laboured under a cough with great expectoration, with quick pulse, and difficulty of breathing, soon recovered by the use of digitalis taken twice a day; and though this case might probably be a peripneumonia notha, or catarrh, it is here related as shewing the power of pulmonary absorption excited by the use of this drug.

Since the publication of the above, some successful cases of the treatment of consumption by the tincture of digitalis are related in Medical and Physical Contributions, edited by Dr. Beddoes, Longman, London. Two of the successful cases are from Dr. Drake, who observes, "that by gradually increasing the dose of the saturated tincture of digitalis from 20 drops to 100 twice a day, all the symptoms of fever, cough, pain, and dyspnœa,

daily

daily grew better, and at length totally ceaſed, and that on the quantity and quality of the expectorated matter the digitalis ſoon exerted a very remarkable effect, either promoting its abſorption, or diminiſhing its ſecretion, or perhaps both, in a rapid manner; while at the ſame time it deprived it of its fetor." Many caſes with great relief, or with proſperous event, are related by Dr. Fowler, and by Dr. Beddoes. One I have alſo lately ſeen myſelf, whom I believed to be conſumptive, and who is of a conſumptive family, and after having uſed the ſaturated tincture about ſix weeks, or two months, in various doſes, is now believed by herſelf and friends to be perfectly reſtored to health, but there has not been time enough yet elapſed to determine, whether ſhe may not relapſe, now ſhe diſcontinues the medicine.

Neverthleſs as the digitalis has been given in many caſes without ſucceſs, there is reaſon to believe, that it ſhould be taken early in the diſeaſe, before too great ulcerations are produced, and too great debility exiſts. As theſe patients are ſubject to flatter themſelves more than moſt others, and are liable, on that account, not to apply ſoon enough for proper aſſiſtance, they ſhould be warned that a cough attended with a pulſe, that beats 120 times in a minute, is always a diſeaſe of danger.

Another method of inducing ſickneſs, and pulmonary abſorption in conſequence, is by ſailing on

the ſea; by which many conſumptive patients have been ſaid to have received their cure; which has been erroneouſly aſcribed to ſea-air, inſtead of ſea-ſickneſs; whence many have been ſent to breathe the ſea-air on the coaſts, who might have done better in higher ſituations, where the air probably contains leſs oxygen gas, which is the heavieſt part of it. See a Letter from Dr. J. C. below.

A third method of inducing ſickneſs, and conſequent pulmonary abſorption, is by the vertigo occaſioned by ſwinging; which has lately been introduced into practice by Dr. Smith, (Eſſay on Pulmonary Conſumption), who obſerved that by ſwinging the hectic pulſe became ſlower, which is explained in Claſs IV. 2. 1. 10. The uſual way of reciprocating ſwinging, like the oſcillations of a pendulum, produces a degree of vertigo in thoſe, who are unuſed to it; but to give it greater effect, the patient ſhould be placed in a chair ſuſpended from the ceiling by two parallel cords in contact with each other, the chair ſhould then be forcibly revolved 20 or 40 times one way, and ſuffered to return ſpontaneouſly; which induces a degree of ſickneſs in moſt adult people, and is well worthy an exact and pertinacious trial, for an hour or two, three or four times a day for a month.

The common means of promoting abſorption in ulcers, and of thickening the matter in conſequence, by taking the bark and opium internally,

or

or by metallic ſalts, as of mercury, ſteel, zinc, and copper, in ſmall quantities, have been repeatedly uſed in pulmonary conſumption; and may have relieved ſome of the ſymptoms. As mercury cures venereal ulcers, and as pulmonary ulcers reſemble them in their not having a diſpoſition to heal, and in their tendency to enlarge themſelves, there were hopes, from analogy, that it might have ſucceeded. Would a ſolution of gold in aqua regia be worth trying? When vinegar is applied to the lips, it renders them inſtantly pale, by promoting the venous abſorption; if the whole ſkin was moiſtened with warmiſh vinegar, would this promote venous abſorption in the lungs by their ſympathy with the ſkin? The very abſtemious diet on milk and vegetables alone is frequently injurious. Fleſh-meat once a day, with ſmall wine and water, or ſmall beer, is preferable. Half a grain of opium twice a day, or a grain, I believe to be of great uſe at the commencement of the diſeaſe, as appears from the ſubſequent caſe.

Miſs ——, a delicate young lady, of a conſumptive family, when ſhe was about eighteen, had frequent cough, with quick pulſe, a pain of her ſide, and the general appearances of a beginning conſumption. She took about five drops of laudanum twice a day in a ſaline draught, which was increaſed gradually to ten. In a few weeks ſhe recovered, was afterwards married, bore three

or

or four children, and then became consumptive and died.

The following case of hereditary consumption is related by a physician of great ability and very extensive practice; and, as it is his own case, abounds with much nice observation and useful knowledge; and, as it has been attended with a favourable event, may give consolation to many, who are in a similar situation; and shews that Sydenham's recommendation of riding as a cure for consumption is not so totally ineffectual, as is now commonly believed.

J. C. aged 27, with black hair, and a ruddy complexion, was subject to cough from the age of puberty, and occasionally to spitting of blood. His maternal grandfather died of consumption under thirty years of age, and his mother fell a victim to this disease, with which she had long been threatened, in her 43d year, and immediately after she ceased to have children. In the severe winter of 1783-4, he was much afflicted with cough; and being exposed to intense cold, in the month of February he was seized with peripneumony. The disease was violent and dangerous, and after repeated bleedings as well as blisterings, which he supported with difficulty, in about six weeks he was able to leave his bed. At this time the cough was severe, and the expectoration difficult. A fixed pain remained on the left side, where

where an iſſue was inſerted; regular hectic came on every day about an hour after noon, and every night heat and reſtleſſneſs took place, ſucceeded towards morning by general perſpiration.

The patient, having formerly been ſubject to ague, was ſtruck with the reſemblance of the febrile paroxyſm, with what he had experienced under that diſeaſe, and was willing to flatter himſelf it might be of the ſame nature. He therefore took bark in the interval of fever, but with an increaſe of his cough, and this requiring veneſection, the blood was found highly inflammatory. The vaſt quantity of blood which he had loſt from time to time, produced a diſpoſition to fainting, when he reſumed the upright poſture, and he was therefore obliged to remain almoſt conſtantly in a recumbent poſition. Attempting to ride out in a carriage, he was ſurpriſed to find that he could ſit upright for a conſiderable time, while in motion, without inconvenience, though, on ſtopping the carriage, the diſpoſition to fainting returned.

At this time, having prolonged his ride beyond the uſual length, he one day got into an uneven road at the uſual period of the recurrence of the hectic paroxyſms, and that day he miſſed it altogether. This circumſtance led him to ride out daily in a carriage at the time the febrile acceſſion might be expected, and ſometimes by this means it was prevented, ſometimes deferred, and almoſt always mitigated.

This

This experience determined him to undertake a journey of ſome length, and Briſtol being, as is uſual in ſuch caſes, recommended, he ſet out on the 19th of April, and arrived there on the 2d of May. During the greater part of this journey (of 175 miles) his cough was ſevere, and being obliged to be bled three different times on the road, he was no longer able to ſit upright, but at very ſhort intervals, and was obliged to lie at length in the diagonal of a coach. The hectic paroxyſms were not interrupted during the journey, but they were irregular and indiſtinct, and the ſalutary effects of exerciſe, or rather of geſtation, were impreſſed on the patient's mind.

At Briſtol he ſtayed a month, but reaped no benefit. The weather was dry and the roads duſty; the water inſipid and inert. He attempted to ride on horſeback on the downs, but was not able to bear the fatigue for a diſtance of more than a hundred yards. The neceſſity of frequent bleedings kept down his ſtrength, and his hectic paroxyſms continued, though leſs ſevere. At this time, ſuſpecting that his cough was irritated by the weſt-winds bearing the vapour from the ſea, he reſolved to try the effects of an inland ſituation, and ſet off for Matlock in Derbyſhire.

During the journey he did not find the improvement he expected, but the nightly perſpirations began to diminiſh; and the extraordinary fatigue he experienced proceeded evidently from his travelling

velling in a poſt-chaiſe, where he could not indulge in a recumbent poſition. The weather at Briſtol had been hot, and the earth arid and duſty. At Matlock, during the month of June 1784, there was almoſt a perpetual drizzle, the ſoil was wet, and the air moiſt and cold. Here, however, the patient's cough began to abate, and at intervals he found an opportunity of riding more or leſs on horſeback. From two or three hundred yards at a time, he got to ride a mile without ſtopping; and at length he was able to ſit on horſeback during a ride from Maſon's Bath to the village of Matlock along the Derwent, and round on the oppoſite banks, by the works of Mr. Arkwright, back to the houſe whence he ſtarted, a diſtance of five miles. On diſmounting, however, he was ſeized with diliquium, and ſoon after the ſtrength he had recovered was loſt by an attack of the hæmorrhoids of the moſt painful kind, and requiring much loſs of blood from the parts affected.

On reflection, it appeared that the only benefit received by the patient was during motion, and continued motion could better be obtained in the courſe of a journey than during his reſidence at any particular place. This, and other circumſtances of a private but painful nature, determined him to ſet out from Matlock on a journey to Scotland. The weather was now much improved, and during the journey he recruited his ſtrength. Though as yet he could not ſit upright at reſt for half

half an hour together without a diſpoſition to giddineſs, dimneſs of ſight, and deliquium, he was able to ſit upright under the motion of a poſt-chaiſe during a journey of from 40 to 70 miles daily, and his appetite began to improve. Still his cough continued, and his hectic fluſhings, though the chills were much abated and very irregular.

The ſalutary effects of motion being now more ſtriking than ever, he purchaſed a horſe admirably adapted to a valetudinarian in Dumfriesſhire, and being now able to ſit on horſeback for an hour together, he rode out ſeveral times a day. He fixed his reſidence for a few weeks at Moffat, a village at the foot of the mountains whence the Tweed, the Clyde, and the Annan, deſcend in different directions; a ſituation inland, dry, and healthy, and elevated about three hundred feet above the ſurface of the ſea. Here his ſtrength recovered daily, and he began to eat animal food, which for ſeveral months before he had not taſted. Perſevering in exerciſe on horſeback, he gradually increaſed the length of his rides, according to his ſtrength, from four to twenty miles a day; and returning on horſeback to Lancaſhire by the lakes of Cumberland, he arrived at Liverpool on the firſt of September, having rode the laſt day of his journey forty miles.

The two inferences of moſt importance to be drawn from this narrative, are, firſt, the extraordinary

nary benefit derived from geſtation in a carriage, and ſtill more the mixture of geſtation and exerciſe on horſeback, in arreſting or mitigating the hectic paroxyſm; and ſecondly, that in the florid conſumption, as Dr. Beddoes terms it, an elevated and inland air is in certain circumſtances peculiarly ſalutary; while an atmoſphere loaded with the ſpray of the ſea is irritating and noxious. The vicinity of the ſea appears very injurious to almoſt all vegetables, and ſhould on that account be ſuſpected in reſpect to its general ſalubrity, though it may nevertheleſs be medicinal in ſome diſeaſes, if reſorted to for a time in the ſummer months, but muſt be ineligible as a permanent reſidence. See Claſs I. 2. 1. 15.

The benefit derived in this caſe from exerciſe on horſeback, may lead us to doubt whether Sydenham's praiſe of this remedy be as much exaggerated as it has of late been ſuppoſed. Since the publication of Dr. C. Smyth on the effects of ſwinging in lowering the pulſe in the hectic paroxyſm, the ſubject of this narrative has repeated his experiments in a great variety of caſes, and has confirmed them. He has alſo repeatedly ſeen the hectic paroxyſm prevented, or cut ſhort, by external ablution of the naked body with tepid water.

So much was his power of digeſtion impaired or vitiated by the immenſe evacuations, and the long continued debility he underwent, that after

the cough was removed, and indeed for ſeveral years after the period mentioned, he never could eat animal food without heat and fluſhing, with frequent pulſe and extreme drowſineſs. If this drowſineſs was encouraged, the fever ran high, and he awoke from diſturbed ſleep, wearied and depreſſed. If it was reſolutely reſiſted by gentle exerciſe, it went off in about an hour, as well as the increaſed frequency of the pulſe. This agitation was however ſuch as to incapacitate him during the afternoon for ſtudy of any kind. The ſame effects did not follow a meal of milk and vegetables, but under this diet his ſtrength did not recruit; whereas after the uſe of animal food it recovered rapidly, notwithſtanding the inconvenience already mentioned. For this inconvenience he at laſt found a remedy in the uſe of coffee immediately after dinner, recommended to him by his friend Dr. Percival. At firſt this remedy operated like a charm, but by frequent uſe, and indeed by abuſe, it no longer poſſeſſes its original efficacy.

Dr. Falconer, in his Diſſertation on the Influence of the Paſſions and Affections of the Mind on Health and Diſeaſe, ſuppoſes that the cheerfulneſs which attends hectic fever, the ever-ſpringing hope, which brightens the gloom of the conſumptive patient, increaſes the diſeaſed actions, and haſtens his doom. And hence he is led to inquire, whether the influence of fear might not be

ſubſtituted

ſubſtituted in ſuch caſes to that of hope with advantage to the patient? This queſtion I ſhall not preſume to anſwer, but it leads me to ſay ſomething of the ſtate of the mind in the caſe juſt related.

The patient, being a phyſician, was not ignorant of his danger, which ſome melancholy circumſtances ſerved to impreſs on his mind. It has already been mentioned, that his mother and grandfather died of this diſeaſe. It may be added, that in the year preceding that on which he himſelf was attacked, a ſiſter of his was carried off by conſumption in her 17th year; that in the ſame winter in which he fell ill, two other ſiſters were ſeized with the ſame fatal diſorder, to which one of them fell a victim during his reſidence at Briſtol, and that the hope of bidding a laſt adieu to the other was the immediate cauſe of his journey to Scotland, a hope which, alas! was indulged in vain. The day on which he reached the end of his journey, her remains were committed to the duſt! It may be conjectured from theſe circumſtances, that whatever benefit may be derived from the apprehenſion of death, muſt in this caſe have been obtained. The expectation of this iſſue was indeed for ſome time ſo fixed that it ceaſed to produce much agitation; in conformity to that general law of our nature, by which almoſt all men ſubmit with compoſure to a fate that is foreſeen, and that appears inevitable. As however the

progreſs of diſeaſe and debility ſeemed to be arreſted, the hope and the love of life revived, and produced, from time to time, the obſervations and the exertions already mentioned.

Wine and beer were rigorouſly abſtained from during ſix months of the above hiſtory; and all the blood, which was taken, was even to the laſt buffy. Feb. 3, 1795.

It has lately been aſſerted, that the people of Holland are leſs liable to conſumption of the lungs, than thoſe of many other parts of Europe, which has been aſcribed to their warmer clothing. I am aware of the difficulty of making ſuch eſtimates with any great degree of certainty, but if ſuch be the fact, it may indeed be aſcribed with ſome degree of probability to their uſing very warm clothing, but not very warm rooms during the winter ſeaſon. Whence the lungs are not ſo much expoſed to the great and ſudden tranſition from very warm rooms into froſty air, as in this country. And though the lungs have not a ſenſation of cold or of chilneſs like the external ſkin, in paſſing from very warm air into great cold, often much below the freezing point, yet they are liable to inflammation, like other parts of the ſyſtem. But to this may be objected, that the hereditary pulmonary conſumption attacks the patient ſo infallibly a few years after puberty, that it does not appear to depend much on external circumſtances.

8. *Febris*

8. *Febris ſcrofuloſa.* The hectic fever occaſioned by ulcers of the lymphatic glands, when expoſed to the air, does not differ from that attending pulmonary conſumption, being accompanied with night-ſweats and occaſional diarrhœa.

M. M. The bark. Opium internally. Externally ceruſſa and bark in fine powder. Bandage. Sea-bathing. See Claſs I. 2. 3. 21. and II. 1. 4. 12.

9. *Febris iſchiadica.* A hectic fever from an open ulcer between the muſcles of the pelvis, which differs not from the preceding. If the matter in this ſituation lodges till part of it, I ſuppoſe, becomes putrid, and aerates the other part; or till it becomes abſorbed from ſome other circumſtance; a ſimilar hectic fever is produced, with night-ſweats, or diarrhœa.

Mrs. ——, after a lying in, had pain on one ſide of her loins, which extended to the internal part of the thigh on the ſame ſide. No fluctuation of matter could be felt; ſhe became hectic with copious night-ſweats, and occaſional diarrhœa, for four or five weeks; and recovered by, I ſuppoſe, the total abſorption of the matter, and the reunion of the walls of the abſceſs. See Claſs II. 1. 2. 18.

10. *Febris Arthropuodica.* Fever from the matter of diſeaſed joints. Does the matter from ſup-

purating bones, which generally has a very putrid ſmell, produce hectic fever or typhus? See Claſs II. 1. 4. 16.

11. *Febris a pure contagioſo.* Fever from contagious pus. When the contagious matters have been produced on the external habit, and in proceſs of time become abſorbed, a fever is produced in conſequence of this reabſorption; which differs with the previous irritability or inirritability, as well as with the ſenſibility of the patient.

12. *Febris varioloſa ſecundaria.* Secondary fever of ſmall-pox. In the diſtinct ſmall-pox the fever is of the ſenſitive irritated or inflammatory kind; in the confluent ſmall-pox it is of the ſenſitive inirritated kind, or typhus gravior. In both of them the ſwelling of the face, when the matter there begins to be abſorbed, and of the hands, when the matter there begins to be abſorbed, ſhew, that it ſtimulates the capillary veſſels or glands, occaſioning an increaſed ſecretion greater than the abſorbents can take up, like the action of the cantharides in a bliſter; now as the application of a bliſter on the ſkin frequently occaſions the ſtrangury, which ſhews, that ſome part of the cantharides is abſorbed; there is reaſon to conclude, that a part of the matter of ſmall-pox is abſorbed, and thus produces the ſecondary fever. See Claſs II. 1. 3. 9. And not ſimply by its ſti-

mulus

mulus on the ſurface of the ulcers beneath the ſcabs. The exſudation of a yellow fluid from beneath the confluent eruptions on the face before the height is ſpoken of in Claſs II. 1. 3. 2.

The material thus abſorbed in the ſecondary fever of ſmall-pox differs from that of open ulcers, as it is only aerated through the elevated cuticle; and ſecondly, becauſe there is not a conſtant ſupply of freſh matter, when that already in the puſtules is exhauſted, either by abſorption, or by evaporation, or by its induration into a ſcab. Might not the covering the face aſſiduouſly and exactly with plaſters, as with cerate of calamy, or with minium plaſter, by precluding the air from the puſtules, prevent their contracting a contagious, or aceſcent, or fever-producing power? and the ſecondary fever be thus prevented entirely. If the matter in thoſe puſtules on the face in the confluent ſmall-pox were thus prevented from oxygenation, it is highly probable, both from this theory, and from the facts before mentioned, that the matter would not erode the ſkin beneath them, and by theſe means no marks or ſcars would ſucceed.

13. *Febris carcinomatoſa.* Fever from the matter of cancer. In a late publication the pain is ſaid to be relieved, and the fever cured, and the cancer eradicated, by the application of carbonic acid gas, or fixed air. See Claſs II. 1. 4. 16.

14. *Febris venerea.* From the abſorption of the matter from venereal ulcers and ſuppurating bones. See Syphilis, II. 1. 5. 2.

M. M. Any mercurial calx. Sarſaparilla? Mezereon?

15. *Febris a ſanie putrida.* Fever from putrid ſanies. When parts of the body are deſtroyed by external violence, as a bruiſe, or by mortification, a putrefaction ſoon ſucceeds; as they are kept in that degree of warmth and moiſture, by their adheſion to the living parts of the body, which moſt forwards that proceſs. Thus the ſloughs of mortified parts of the tonſils give fetor to the breath in ſome fevers; the matter from putrefying teeth, or other ſuppurating bones, is particularly offenſive; and even the ſcurf, which adheres to the tongue, frequently acquires a bitter taſte from its incipient putridity. This material differs from thoſe before mentioned, as its deleterious property depends on a chemical rather than an animal proceſs.

16. *Febris puerpera.* Puerperal fever. It appears from ſome late diſſections, which have been publiſhed, of thoſe women who have died of the puerperal fever, that matter has been formed in the omentum, and found in the cavity of the abdomen, with ſome blood or ſanies. Theſe parts are ſuppoſed to have been injured by the exertions accompanying labour; and as matter in this viſcus

may

may have been produced without much pain, this diſeaſe is not attended with arterial ſtrength and hard full pulſe, like the inflammation of the uterus; and as the fever is of the inirritative or typhus kind, there is reaſon to believe, that the previous exhauſtion of the patient during labour may contribute to its production; as well as the abſorption of a material not purulent but putrid; which is formed by the delay of extravaſated or dead matter produced by the bruiſes of the omentum, or other viſcera, in the efforts of parturition, rather than by purulent matter, the conſequence of ſuppuration. The pulſe is generally about 120 when in bed, and in the morning; and is increaſed to 134, or more, when the patient ſits up, or in the evening paroxyſm. The pulſe of all very weak patients increaſes in frequency when they ſit up; becauſe the expenditure of ſenſorial power neceſſary to preſerve an erect poſture deducts ſo much from their general ſtrength; and hence the pulſe becomes weaker, and in conſequence quicker. See Sect. XII. 1. 4.

Whence I ſuſpect, that the puerperal fever is diſtinguiſhedfrom the hectic fever, by the former being produced and ſupported by the abſorption of a putrid ſanies, ariſing from dead parts of the omentum or meſentery; and the latter being produced and ſupported by the abſorption of purulent matter, which is the conſequence of inflammation, after it has been oxygenated by ex-

posure to the air: and that hence they differ in the greater debility, and consequent quicker pulse, and more rapid progress of the former than the latter; but agree, in the few patients which I have attended, in the circumstance of the patients bearing the quantity of these fevers better than the typhus, as is seen in their frequent rising from their beds for hours, and even attending to their occupations with a pulse of more than 120 in a minute; and also in another important circumstance, which is, that they take solid food, as bread, and eggs, and oysters, and even chicken, in great quantities; which in the inirritative fever, or typhus, is refused during the whole course of the disease. And hence it seems probable, that the cause or commencement of the inirritative fever, or typhus, may have been from the torpor or paralysis of the stomach, owing to the swallowing of contagious matter along with our saliva; and the actions of the heart suffer in consequence from sympathy. And that hence these three kinds of fever may be distinguished from each other: the typhus, by the total loss of appetite for solid food; the hectic fever, by the pulse being seldom above 120, and with attendant inflammation; and the puerperal fever, by a quicker and weaker pulse; but both the latter existing without the inability to take some solid nourishment.

In this fever time must be allowed for the absorption of the matter. Very large and repeated quantities

quantities of the bark, by preventing sufficient food from being taken, as bread, and wine, and water, I have thought, have much injured the patient; for the bark is not here given, as in intermittent fevers, to prevent the paroxysm, but simply to strengthen the patient by increasing the power of digestion. About two ounces of decoction of bark, with four drops of laudanum, and a drachm of sweet spirit of vitriol, once in six hours, and a glass of wine between those times, with panada, or other food, I have thought of most advantage, with a small blister occasionally.

Where not only the stomach but also the bowels are much distended with air, so as to sound on striking them with the fingers, the case is always dangerous, generally hopeless; which is more so in proportion to the quickness of the pulse. Where the bowels are distended two drops of oil of cinnamon should be given in the panada three or four times a day, with ten grains of alum.

In one case of puerperal fever, which lasted above forty days, and was attended for the last fortnight with perpetual subsultus of the tendons, and even twitching of the hands with unceasing delirium, and inability to sleep, musk given in the dose of ten grains every six hours, with five drops of tincture of opium, seemed to be of service; and when the abdomen became tumid with air, about the 36th day from the commencement of the fever, alum given in doses of about seven grains every

every three hours, seemed of uncommon service, as the tumor of the abdomen much subsided in one day, and the patient immediately became able to sleep two or three hours at a time; but the event of the disease was fatal.

In this situation I suppose the fever to have been kept up by the absorption of a putrid material in the abdomen, on the outside of the intestines; and as alum instantaneously destroys the volatile alkali which occasions a part of the smell, and perhaps the whole of the gas of putrid matter; which alkali precipitates the argillaceous earth from the vitriolic acid; I suppose this effect would be produced by alum, though it might not be produced by vitriolic acid, as the latter would unite with the contents of the stomach; but the alum would not unite with any thing, till it became exposed to exhalations of putrid matter. See Class II. 1. 3. 1. Might not a puncture by a lancet into the tumid abdomen, through the scar of the navel, be of use, when it is much distended with air?

The want of sleep was owing to debility, and ceased when that became lessened. As some motions of the hands were the consequence of her delirious ideas, these became tremulous, like the hands of very old men, or drunkards, from debility, whenever they were exerted.

A very interesting account of the puerperal fever, which was epidemic at Aberdeen, has been

lately publiſhed by Dr. Alexander Gordon. (Robinſons, London.) In ſeveral diſſections of thoſe who died of this diſeaſe, purulent matter was found in the cavity of the abdomen; which he aſcribes to an eryſipelatous inflammation of the peritonæum, as its principal ſeat, and of its productions, as the omentum, meſentery, and peritonæal coat of the inteſtines.

He believes, that it was infectious, and that the contagion was always carried by the accoucheur, or the nurſe, from one lying-in woman to another.

The diſeaſe began with violent unremitting pain of the abdomen on the day of delivery, or the next day, with ſhuddering, and very quick pulſe, often 140 in a minute. In this ſituation, if he ſaw the patient within 12 or 24 hours of her ſeizure, he took away from 16 to 24 ounces of blood, which was always ſizy. He then immediately gave a cathartic, conſiſting of three grains of calomel, and forty grains of powder of jalap. After this had operated, he gave an opiate at night; and continued the purging and the opiate for ſeveral days.

He aſſerts; that almoſt all thoſe, whom he was permitted to treat in this manner early in the diſeaſe, recovered, to the number of 50; and that almoſt all the reſt died. But that when two or three days were elapſed, the patient became too

weak

weak for this method; and the matter was already formed, which deſtroyed them. Except that he ſaw two patients who recovered, after diſcharging a large quantity of matter at the navel. And a few who were relieved, by the appearance of external eryſipelas on the extremities.

This diſeaſe, conſiſting of an eryſipelatous inflammation, may occaſion the great debility ſooner to occur than in inflammation of the uterus; which latter is neither eryſipelatous, I ſuppoſe, nor contagious. And the ſucceſs of Dr. Gordon's practice ſeems to correſpond with that of Dr. Ruſh, in the contagious fever or plague at Philadelphia; which appeared to be much aſſiſted by early evacuations. One caſe I ſaw, ſome time ago, where violent unceaſing pain of the whole abdomen occurred, a few hours after delivery, with quick pulſe; which ceaſed after the patient had twice loſt about eight ounces of blood, and had taken a moderate cathartic with calomel.

This caſe induces me to think, that it might be ſafer, and equally efficacious, to take leſs blood at firſt than Dr. Gordon mentions, and to repeat the operation in a few hours, if the continuance of the ſymptoms ſhould require it. And the ſame in reſpect to the cathartic, which might perhaps be given in leſs quantity, and repeated every two or three hours.

Nor ſhould I wiſh to give an opiate after the

firſt

first venesection and cathartic; as I suspect that this might be injurious, except those evacuations had emptied the vessels so much, that the stimulus of the opiate should act only by increasing the absorption of the new vessels or fluids produced on the surfaces of the inflamed membranes. In other inflammations of the bowels, and in acute rheumatism, I have seen the disease much prolonged, and I believe sometimes rendered fatal, by the too early administration of opiates, either along with cathartics, or at their intervals; while a small dose of opium given after sufficient evacuations produces absorption only by its stimulus, and much contributes to the cure of the patient. We may have visible testimony of this effect of opium, when a solution of it is put into an inflamed eye; if it be thus used previous to sufficient evacuation, it increases the inflammation; if it be used after sufficient evacuation, it increases absorption only, and clears the eye in a very small time.

I cannot omit observing, from considering these circumstances, how unwise is the common practice of giving an opiate to every woman immediately after her delivery, which must often have been of dangerous consequence.

17. *Febris a sphacelo.* Fever from mortification. This fever from absorption of putrid matter is

is of the inirritative or typhus kind. See the preceding article.

M. M. Opium and the bark are frequently given in too great quantity, ſo as to induce conſequent debility, and to oppreſs the power of digeſtion.

ORDO

ORDO I.

Increafed Senfation.

GENUS VII.

With increafed Action of the Organs of Senfe.

SPECIES.

1. *Delirium febrile.* Paraphrofyne. The ideas in delirium confift of thofe excited by the fenfation of pleafure or pain, which precedes them, and the trains of other ideas affociated with thefe, and not of thofe excited by external irritations or by voluntary exertion. Hence the patients do not know the room which they inhabit, or the people who furround them; nor have they any voluntary exertion, where the delirium is complete; fo that their efforts in walking about a room or rifing from their bed are unfteady, and produced by their catenations with the immediate affections of pleafure or pain. See Section XXXIII. 1. 4.

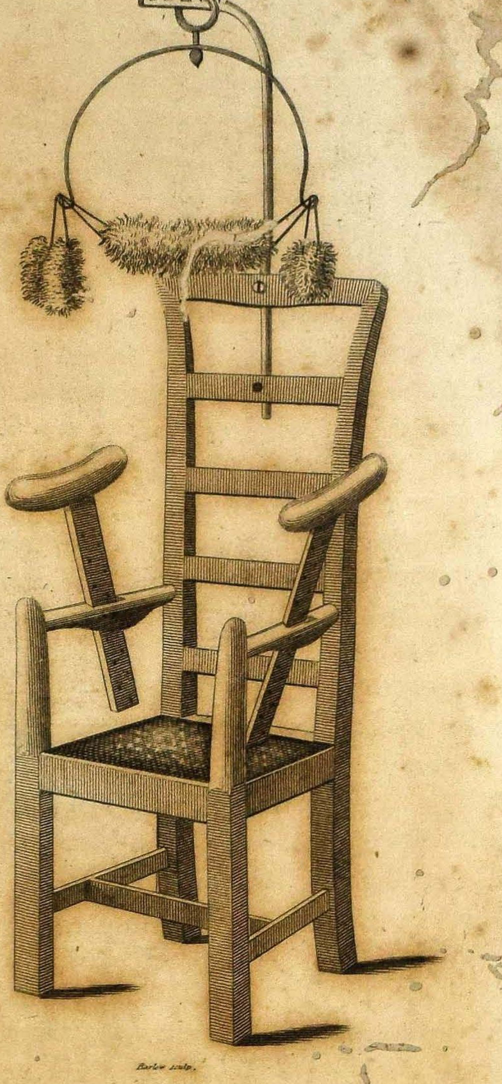
By the above circumftances it is diftinguifhed from madnefs, in which the patients well know the perfons of their acquaintance, and the place where they are; and perform all the voluntary actions with fteadinefs and determination. See Sect. XXXIV. 2. 2.

Delirium

Delirium is sometimes less complete, and then a new face and louder voice stimulate the patient to attend to them for a few moments; and then they relapse again into perfect delirium. At other times a delirium affects but one sense, and the person thinks he sees things which do not exist; and is at the same time sensible to the questions which are asked him, and to the taste of the food which is offered to him.

This partial delirium is termed a hallucination of the disordered organ; and may probably arise from the origin of one nerve of sense being more liable to inflammation than the others; that is, an exuberance of the sensorial power of sensation may affect it; which is therefore thrown into action by slighter sensitive catenations, without being obedient to external stimulus, or to the power of volition.

The perpetual flow of ideas in delirium is owing to the same circumstance, as of those in our dreams; namely, to the defect or paralysis of the voluntary power; as in hemiplegia, when one side of the body is paralytic, and thus expends less of the sensorial power, the limbs on the other side are in constant motion from the exuberance of it. Whence less sensorial power is exhausted in delirium, than at other times, as well as in sleep; and hence in fevers with great debility, it is perhaps, as well as the stupor, rather a favourable circumstance; and when removed by numerous blisters,



Barlow sculp.

blisters, the death of the patient often follows the recovery of his understanding. See Class I. 2. 5. 6. and I. 2. 5. 10.

Delirium in diseases from inirritability is sometimes preceded by a propensity to surprise. See Class I. 1. 5. 12.

M. M. Fomentations of the shaved head for an hour repeatedly. A blister on the head. Rising from bed. Wine and opium, and sometimes venesection in small quantity by cupping, if the strength of the arterial system will allow it.

2. *Delirium maniacale.* Maniacal delirium. There is another kind of delirium, described in Sect. XXXIII. 1. 4. which has the increase of pleasurable or painful sensation for its cause, without any diminution of the other sensorial powers; but as this excites the patient to the exertion of voluntary actions, for the purpose of obtaining the object of his pleasurable ideas, or avoiding the object of his painful ones, such as perpetual prayer, when it is of the religious kind; it belongs to the insanities described in Class III. 1. 2. 1. and is more properly termed hallucinatio maniacalis.

3. *Delirium ebrietatis.* The drunken delirium is in nothing different from the delirium attending fevers except in its cause, as from alcohol, or other poisons. When it is attended with an apoplectic stupor, the pulse is generally low; and venesection I

believe sometimes destroy those, who would otherwise have recovered in a few hours.

M. M. Diluting liquids. An emetic.

4. *Somnium*. Dreams constitute the most complete kind of delirium. As in these no external irritations are attended to, and the power of volition is entirely suspended; so that the sensations of pleasure and pain, with their associations, alone excite the endless trains of our sleeping ideas; as explained in Sect. XVIII. on Sleep.

5. *Hallucinatio visûs*. Deception of sight. These visual hallucinations are perpetual in our dreams; and sometimes precede general delirium in fevers; and sometimes belong to reverie, and to insanity. See Class III. 1. 2. 1. and 2. and must be treated accordingly.

Other kinds of visual hallucinations occur by moon-light; when objects are not seen so distinctly as to produce the usual ideas associated with them, but appear to us exactly as they are seen. Thus the trunk of a tree appears a flat surface, instead of a cylinder as by day, and we are deceived and alarmed by seeing things as they really are seen. See Berkley on Vision.

6. *Hallucinatio auditûs*. Auricular deception frequently occurs in dreams, and sometimes precedes general delirium in fevers; and sometimes belongs

to

to vertigo, and to reverie, and to insanity. See Sect. XX. 7. and Clafs III. 1. 2. 1. and 2.

7. *Rubor a calore.* The blufh from heat is occafioned by the increafed action of the cutaneous veffels in confequence of the increafed fenfation of heat. See Clafs I. 1. 2. 1. and 3.

8. *Rubor jucunditatis.* The blufh of joy is owing to the increafed action of the capillary arteries, along with that of every moving veffel in the body, from the increafe of pleaforable fenfation.

9. *Priapifmus amatorius.* Amatorial priapifm. The blood is poured into the cells of the corpora cavernofa much fafter than it can be reabforbed by the vena penis, owing in this cafe to the pleafurable fenfation of love increafing the arterial action. See Clafs I. 1. 4. 6.

10. *Diftentio mamularum.* The teats of female animals, when they give fuck, become rigid and erected, in the fame manner as in the laft article, from the pleafurable fenfation of the love of the mother to her offspring. Whence the teat may properly be called an organ of fenfe. The nipples of men do the fame when rubbed with the hand. See Clafs I. 1. 4. 7.

ORDO II.

Decreased Sensation.

GENUS I.

Of the General System.

SPECIES.

1. *Stultitia insensibilis.* Folly from insensibility. The pleasure or pain generated in the system is not sufficient to promote the usual activity either of the sensual or muscular fibres.

2. *Tædium vitæ.* Ennui. Irksomeness of life. The pain of laziness has been thought by some philosophers to be that principle of action, which has excited all our industry, and distinguished mankind from the brutes of the field. It is certain that, where the ennui exists, it is relieved by the exertions of our minds or bodies, as all other painful sensations are relieved; but it depends much upon our early habits, whether we become patient of laziness, or inclined to activity, during the remainder of our lives, as other animals do not appear to be affected with this malady; which is perhaps less owing to deficiency of the pleasurable sensation, than to the superabundancy of voluntary

luntary power, which occasions pain in the muscles by its accumulation; as appears from the perpetual motions of a squirrel confined in a cage.

3. *Paresis sensitiva.* Weakness of the whole system from insensibility.

ORDO II.

Decreased Sensation.

GENUS II.

Of particular Organs.

SPECIES.

1. *Anorexia.* Want of appetite. Some elderly people, and those debilitated by fermented liquors, are liable to lose their appetite for animal food; which is probably in part owing to the deficiency of gastric acid, as well as to the general decay of the system: elderly people will go on years without animal food; but inebriates soon sink, when their digestion becomes so far impaired. Want of appetite is sometimes produced by the putrid matter from many decaying teeth being perpetually mixed with the saliva, and thence affecting the organs of taste, and greatly injuring the digestion.

M. M. Fine charcoal powder diffused in warm water, held in the mouth frequently in a day, as in Class I. 1. 4. 4. or solution of alum in water. Extract the decayed teeth. An emetic. A blister. Chalybeates. Vitriolic acid. Bile of an ox inspissated, and made into pills; 20 grains to be taken before dinner and supper. Opium half a grain twice a day.

All the ſtrength we poſſeſs is ultimately derived from the food, which we are able to digeſt; whence a total debility of the ſyſtem frequently follows the want of appetite, and of the power of digeſtion. Some young ladies I have obſerved to fall into this general debility, ſo as but juſt to be able to walk about; which I have ſometimes aſcribed to their voluntary faſting, when they believed themſelves too plump; and who have thus loſt both their health and beauty by too great abſtinence, which could never be reſtored.

Two young ladies applied to me, who had experienced many months of great debility, and of almoſt total want of appetite from another cauſe, which was from bathing on a warm day in a cold fountain of water, which was covered from the ſun and ſupplied by a powerful ſpring; but gradually afterwards recovered their health by the uſe of ſix grains of rhubarb with one grain of opium every night for ſome weeks, and a bitter draught twice a day with a ſlight chalybeate. See Claſs III. 2. 1. 17.

I have ſeen other caſes of what may be termed anorexia epileptica, in which a total loſs of appetite, and of the power of digeſtion, ſuddenly occurred along with epileptic fits. Miſs B. a girl about eighteen, apparently very healthy, and rather plump, was ſeized with fits, which were at firſt called hyſterical; they occurred at the end of menſtruation, and returned very frequently with total loſs of appetite. She was relieved by venefection, bliſters, and opiates; her ſtrength dimi-

nished, and after some returns of the fits, she took to her bed, and has survived 15 or 20 years; she has in general eaten half a potato a day, and seldom speaks, but retains her senses, and had many years occasional returns of convulsion. I have seen two similar cases, where the anorexia, or want of appetite, was in less degree; and but just so much food could be digested, as supplied them with sufficient strength to keep from the bed or sofa for half a day. As well as I can recollect, all these patients were attended with weak pulse, and cold pale skin; and received benefit by opium, from a quarter of a grain to a grain four times a day. See Class III. 1. 1. 7. and III. 1. 2. 20. and Suppl. I. 14. 3.

2. *Adipsia.* Want of thirst. Several of the inferior people, as farmers wives, have a habit of not drinking with their dinner at all, or only take a spoonful or two of ale after it. I have frequently observed these to labour under bad digestion, and debility in consequence; which I have ascribed to the too great stimulus of solid food undiluted destroying in process of time the irritability of the stomach.

3. *Impotentia* (agenesia). Impotency much seldomer happens to the male sex than sterility to the female sex. Sometimes a temporary impotence occurs from bashfulness, or the interference of some voluntary exertion in the production of an

an effect, which should be performed alone by pleasurable sensation.

One, who was soon to be married to a lady of superior condition to his own, expressed fear of not succeeding on the wedding night; he was advised to take a grain of opium before he went to bed, and to accustom himself to sleep with a woman previously, but not to enjoy her, to take off his bashfulness; which succeeded to his wish.

Mr. John Hunter in his work on the Venereal Disease, has given an ingenious section on this subject of mental impotence, in which he relates a successful mode of treatment. He prevailed on a person in this situation to promise on his honour to pass six nights in bed with a young woman without attempting to have connection with her, whatever might be his power or inclination. He afterwards assured Mr. Hunter, that this resolution had produced such a total alteration in the state of his mind, that the power of connection soon returned, for instead of going to bed with the fear of inability, he went with fears, that he should be possessed with too much desire, and too much power, so as to become uneasy to him, which really happened, as he would have been happy to have shortened the time; and when he had once broken the spell, his mind and powers went on together; and his mind never returned to its former state.

A gentleman about 50 years of age, who had lived too freely, as he informed me, both in respect

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to wine and women, complained, that his desire for the sex remained, and that he occasionally parted with semen, but with defect of a perfect tensio penis, and that he had tried 20 drops of laudanum, and 20 drops of tincture of cantharides on going to bed without effect; and that as the debility or inirritability of the system in this case rather than any mental affection seemed to be a part of the cause, he was advised to stimulate the sphincter ani by the introduction of a piece of the root of ginger, as is done by the horse-dealers to sale-horses. And, however ridiculous the operation may appear, he assured me, that it succeeded; which I suppose might be owing to the sympathy between the sphincter ani and the penis; which is so often the cause of painful sensation in the former, when a stone at the neck of the bladder affects the latter; and conversely when painful piles affect the rectum, a strangury is sometimes produced by sympathy.

For restoring the venereal power M. Le Roy thinks phosphorus taken in the dose of a quarter of a grain rubbed with oil or yolk of egg, or honey; or even the acid of phosphorus, to possess great efficacy. Med. Review, Vol. V. p. 204. The water in which phosphorus has been kept some time, probably possesses some of this acid, and is also recommended by M. Le Roy. I ought here to add, that I have been lately informed, that a gentleman directed four grains of phosphorus to

be

be made into pills with conserve, with design of increasing his venereal power. He was seized with intolerable sense of heat at his stomach, pulse feeble, but not quickened, livid countenance, soreness of his bowels to the touch, and incessant vomitings, by which he at last brought up some blood. His illness lasted five or six days. He did not acknowledge any cause of his sudden illness, but said he was certain emetics would cure him, and took two by his own request. After his death, the apothecary mentioned his having directed the pills as above, which were made three days before he was taken ill, and he was believed to have taken about half of them.

M. M. Chalybeates. Opium. Bark. Tincture of cantharides.

4. *Sterilitas.* Barrenness. One of the ancient medical writers asserts, that the female sex become pregnant with most certainty at or near the time of menstruation. This is not improbable, since these monthly periods seem to resemble the monthly venereal orgasm of some female quadrupeds, which become pregnant at those times only; and hence the computation of pregnancy is not often erroneous, though taken from the last menstruation. See Section XXXVI. 2. 3.

M. M. Opium a grain every night. Chalybeates in very small doses. Bark. Sea-bathing.

5. *Insensibilitas*

5. *Insensibilitas artuum.* As in some paralytic limbs. A great insensibility sometimes accompanies the torpor of the skin in cold fits of agues. Some parts have retained the sense of heat, but not the sense of touch. See Sect. XVI. 6.

M. M. Friction with flannel. A blister. Warmth.

6. *Dysuria insensitiva.* Insensibility of the bladder. A difficulty or total inability to make water attends some fevers with great debility, owing to the insensibility or inirritability of the bladder. This is a dangerous but not always a fatal symptom. See Class III. 2. 1. 6.

M. M. Draw off the water with a catheter. Assist the patient in the exclusion of it by compressing the lower parts of the abdomen with the hands. Wine two ounces, Peruvian bark one dram in decoction, every three hours alternately. Balsam of copaiva. Oil of almonds, with as much camphor as can be dissolved in it, applied as a liniment rubbed on the region of the bladder and perinæum, and repeated every four hours, was used in this disease with success by Mr. Latham. Med. Comment. 1791, p. 213.

7. *Accumulatio alvina.* An accumulation of feces in the rectum, occasioned by the torpor, or insensibility, of that bowel. But as liquids pass by these accumulations, it differs from the consti-

patio

patio alvi, which is owing to too great abſorption of the alimentary canal.

Old milk, and eſpecially when boiled, is liable to induce this kind of coſtiveneſs in ſome grown perſons; which is probably owing to their not poſſeſſing ſufficient gaſtric acid to curdle and digeſt it; for as both theſe proceſſes require gaſtric acid, it follows, that a greater quantity of it is neceſſary, than in the digeſtion of other aliments, which do not previouſly require being curdled. This ill digeſted milk not ſufficiently ſtimulating the rectum, remains till it becomes a too ſolid maſs. On this account milk ſeldom agrees with thoſe, who are ſubject to piles, by inducing coſtiveneſs and large ſtools.

M. M. Extract the hardened ſcybala by means of a marrow-ſpoon; or by a piece of wire, or of whale-bone bent into a bow, and introduced. Injections of oil. Caſtor oil, or oil of almonds, taken by the mouth. A large clyſter of ſmoke of tobacco. Six grains of rhubarb taken every night for many months. Aloes. An endeavour to eſtabliſh a habit of evacuation at a certain hour daily. See Claſs I. 1. 3. 5.

ORDO

ORDO III.

Retrograde Sensitive Motions.

GENUS I.

Of Excretory Ducts.

THE retrograde action of the œsophagus in ruminating animals, when they bring up the food from their first stomach for the purpose of a second mastication of it, may probably be caused by agreeable sensation; similar to that which induces them to swallow it both before and after this second mastication; and then this retrograde action properly belongs to this place, and is erroneously put at the head of the order of irritative retrograde motions. Class I. 3. 1. 1.

SPECIES.

1. *Ureterum motus retrogressus.* When a stone has advanced into the ureter from the pelvis of the kidney, it is sometimes liable to be returned by the retrograde motion of that canal, and the patient obtains fallacious ease, till the stone is again pushed into the ureter.

2. *Urethræ motus retrogressus.* There have been instances of bougies being carried up the urethra into

into the bladder moſt probably by an inverted motion of this canal; for which ſome have undergone an operation ſimilar to that for the extraction of a ſtone. A caſe is related in ſome medical publication, in which a catgut bougie was carried into the bladder, and, after remaining many weeks, was voided piece-meal in a ſemi-diſſolved ſtate. Another caſe is related of a French officer, who uſed a leaden bougie; which at length found its way into the bladder, and was, by injecting crude mercury, amalgamated and voided.

In the ſame manner the infection, from a ſimple gonorrhœa, is probably carried further along the courſe of the urethra; and ſmall ſtones frequently deſcend ſome way into the urethra, and are again carried up into the bladder by the inverted action of this canal.

3. *Ductus choledochi motus retrogreſſus.* The concretions of bile, called gall-ſtones, frequently enter the bile-duct, and give violent pain for ſome hours, and return again into the gall bladder, by the retrograde action of this duct. May not oil be carried up this duct, when a gall-ſtone gives great pain, by its retrograde ſpaſmodic action? See Claſs I. 1. 3. 8.

M. M. Opium a grain and half.

ADDITIONS.

Please to insert after line 9, *p.* 127. *Art.* Canities, Class I. 2. 2. 11.

I have lately also inspected a male cat; who is quite black all over, except those parts which appear to have been folded together in the uterus; all which are perfectly white. In both these animals the parts compressed together are so distinctly defined by their colour, that the difference of the curvature and situation of them in the uterus may be nicely discerned: the hinder feet of the cat lay in the arm-pits of the fore-legs, and are white, her fore-legs crossed over the hinder thighs, and left on them a white mark; but the fore-feet, at least the hind part of them, lay under the tail; whence the fore-feet are tipped with white. Where the fœtus is less tender, I suppose, this compression in the uterus does not affect it; as dogs and cats are perpetually seen, which are totally black.

After line 16, *p.* 162, Class I. 2. 3. 12.

The following extract from a letter of Dr. Beddoes on hydrocephalus internus, is well worthy to be attended to.

After line 16, *p.* 164, Class I. 2. 3. 12.

This idea of inflammation preceding hydrocephalus was mentioned by Dr. Quin, and afterwards in a pamphlet of Dr. Paterson, of Dublin.

END OF THE THIRD VOLUME.

T. Bensley, Printer, Bolt Court, Fleet Street, London.